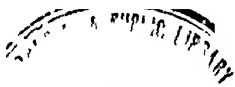


RUBBER COMPANIES' ACCOUNTS

FOR NON-PRODUCING AND PRODUCING COMPANIES



5-OCT 1933

R S STEWART CA (Penang)

AND

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REFERENCE

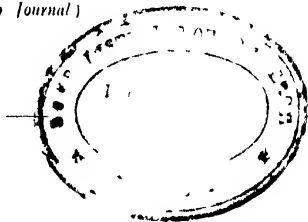
(Managers *Jum Estates Limited* Province Wellesley Straits Settlements)

WITH A PREFACE BY

HERBERT WRIGHT ARCS FLS

(Editor *The India Rubber Journal*)

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LONDON

GEE & CO (PUBLISHERS) LIMITED 31 MOORCOTE STREET I C

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PREFACE

FEW rubber investors have any conception of the intricacies of the accountancy side of the plantation industry. The detail involved is truly enormous. Commencing with the daily pocket checkroll, for use at any time in the field to check the labour employed in each division, the Manager of a rubber plantation has to keep a very sharp look out and to record every activity over the Estate in order that he can present a reliable analysis and general report to the Directors. The usual monthly report, despatched in the first few days following the end of each month, is an amazing document for detail, and would call forth an expression of surprise and admiration from ordinary and even business men. A Manager is very severely handicapped if he is unable to keep correct accounts, or if he cannot effectively check the documents prepared for him by his field and factory assistants.

The detail is at times so overwhelming, especially when the estates are numerous, scattered, or occupied with mixed products, that many owners find it to their advantage to have all accounts rendered or at least checked at very frequent intervals, by properly qualified accountants resident in the East. This is undoubtedly a wise arrangement since it allows the Manager to spend his time in the field or factory instead of the office, and ensures correctness and also promptitude in the despatch of accounts.

The necessity for the best accountancy supervision possible will be more manifest in years to come, when low prices and rigid economy will probably be the order of the day. Many individuals are apt to regard the plantation industry as one which has settled down to a fixed routine unlikely to be materially altered in the future. Certainly the method of

recording details of estate work will not vary, it is the same as that laid down very many years ago by tea planters in Ceylon, South India, and Java, long before rubber estates were known. But that still closer scrutiny over all items of expenditure will be necessary there can be no doubt, unless rubber is to prove the exception to all other tropical products. Already the rubber planting industry has secured a vast army of accountants, and is indeed likely to require still more of the same service, not only in this country but in the East. During the last few years the many accountancy firms established in the East have proved most useful to companies registered in Europe.

The knowledge that there are over one and a half million acres planted with rubber in the Middle East—that over £100,000,000 have been invested in these estates (mainly by Britishers)—and the ever growing importance of rubber in every section of commerce throughout all parts of the civilised world—whether in peace or at war—should be a sufficient guarantee that the business has come to stay. Rubber growing demands a full knowledge not only of tropical agriculture but also of finance if this country is to make the best use of this most powerful asset. If we assume that the present planted acreage is going to yield only three hundred pounds of dry rubber per acre per annum, saleable at six only two shillings per pound—the total value will exert a powerful influence on labour, shipping, market centres, and rates of exchange in every civilised country. Such a national asset is well worth taking care of, especially as the British Empire—the pioneer of the rubber planting industry—is now the largest producer, and gives a crop of rubber exceeding the combined total outputs from the whole of Africa and tropical America—the original homes of raw rubber.

HERBERT WRIGHT

May 3rd 1916

INTRODUCTION

IN submitting the following pages on the subject of Rubber Companies' Accounts, the authors are well aware of the fact that up to the present time no similar book has yet been published on the subject, and it is quite possible that their views may not meet with the approval of many expert planters and agents who have been connected with long-established Estates, and have their own systems running smoothly and satisfactorily.

They feel, however, that in some cases, at least, the forms and explanations may be of considerable assistance to Managers, Agents, and officials, and, while not in any way desiring to recommend that the draft forms submitted should be adopted as "standard" forms, they think that, by opening up the whole important question of Rubber Companies' Accounts for discussion, the ultimate result may be that of more sound financial methods in the management, both on Estates and in the Head Offices. The community interested in rubber is a large and increasing one, and it is hoped that some benefit to all concerned may be derived from a perusal of the following pages.

The authors will be glad to have suggestions in regard to any points which may be insufficiently explained, or entirely omitted, and to consider such with a view to extending the scope of usefulness of this book at some later date, if thought desirable.



CONTENTS

	PAGE
PREFACE	III
INTRODUCTION	V

PART I

NON-PRODUCING COMPANIES	1-64
-------------------------	------

PART II

PRODUCING COMPANIES	65-125
INDEX	127



RUBBER COMPANIES' ACCOUNTS

PART I

NON-PRODUCING COMPANIES

THE general principles of Rubber Companies' ^{General Principle} Accounts present little difficulty to those accustomed to deal with ordinary Mercantile Accounts, but the details of those accounts are the subject of considerable controversy, and it is difficult to find two groups of Estates (by "groups" being implied those Estates which are managed from one local headquarter, which are therefore equipped with similar Returns and Books) which do not differ in their methods to a very considerable degree. To carry the matter further, it is difficult to find two Estates on which the items of expenditure are exactly similar, for there seem to be circumstances peculiar to each individual property.

In our opinion it is not advisable that "standard" ^{Standard Forms} Forms be introduced on any Estate. By this we do not desire to imply that a system applicable to the great majority of Estates cannot be introduced, and that a certain amount of uniformity in Returns cannot be attained.

This, indeed, is highly desirable from the point of view of those responsible for the financing and direction of several groups of Estates, for purposes of comparison. What is meant, however, is that it is not desirable that Forms be printed off wholesale,

with all headings inserted as final—irrespective of the requirements of the Individual Estate—and be merely handed to the Manager without remark beyond that “these are the standard forms, and must be followed”

While one Manager may take the initiative in opening new headings in his Returns to record expenditure for which no provision was made in the printed Forms supplied to him, his neighbour is probably content to collect all expenditure which can possibly be stated under one general heading—even by a stretch of imagination—and thus to save himself detail work on the accounts. It is hardly necessary to remark that the average Estate Manager is not an expert accountant, and that his desire is to make Returns as brief as possible, and to curtail office work to the uttermost, forgetting that at the close of each financial year, if shareholders ask questions of detail, his Directors look to him to provide the replies, and that it will be quite as troublesome a matter for him to trace an entry through “compressed” Accounts, as it is for a third party who has never been on the Estate.

In submitting any Forms to a Manager, therefore, it should be explained to him that the printed headings are not to be taken as final, and he should be encouraged to add to these, as fresh items of expenditure crop up, and to subdivide any of the printed headings regarding which permanent records may be desired. When the supply of printed Estate Forms is exhausted, provision can be made, on obtaining a fresh supply, for all headings added in

the interim, and still further blanks left for further headings while unused headings may be discarded. The Forms, therefore, should be framed with the object of containing all information which may be useful, and it is, of course, self-evident that records made at the time when the work was performed, or the expenditure incurred, are much more likely to be reliable than particulars extracted at a later date in response to belated inquiries.

We have heard the view expressed that a Manager who does not take sufficient interest in his Estate to make up and carry to final figures his own full and detailed accounts is of no use to his Directors, and that the sooner his services are dispensed with the better for all concerned. This policy, however, appears too drastic to be practicable, for, as we have said, the average planter is not an expert accountant, and, further, when he returns from the field he is not as a rule inclined for office work, and cannot always give to it the close attention which is necessary in framing or checking records. To meet the difficulties in this connection the system of 'local agency' has been introduced in the F.M.S., and the following remarks are written partly from the point of view of local Agents there, partly from that of the Estate Manager, and partly from that of the local Auditor—the instances being taken to refer to the average small Estate with a Manager and one, or at most three assistants.

There can be no doubt that on many of the older-established Estates there are in operation excellent systems of office arrangements, which have in many

Standard
FormsPreparation of
Monthly
ReturnsSystems in
Operation

systems in
operation

cases reached their stage of efficiency through the painstaking efforts of Managers of long experience—the pioneers of the industry in the F M S—and are working to the satisfaction of all parties concerned

Again, many expert planters may consider the methods here outlined and explained to be unsatisfactory, and would not care to introduce them on the estates under their control. Similarly, many Secretaries and Agents may disagree with the views expressed. Be that as it may, we would submit that the systems now outlined can be worked without friction, and with satisfactory results, and it is thought that some definite statements may be appreciated by the general planting community, by Boards of Directors, Secretaries, and Home Auditors

ical Work
state

In the opinion of the writers, the less work of a clerical nature connected with the Accounts that is allotted to the Manager of an Estate the better for the cultivation—and, after all, the primary duties of the Manager are to attend to the cultivation, and to see that money is properly expended, without concerning himself with the detail bookkeeping. This latter portion of the work can be done by the clerical staff, but unfortunately it is unusual to find any member of the clerical staff—which is in almost every case composed of natives—who will (or can) take an intelligent interest in the work, or will take the initiative in opening new headings of Account which may involve a slight addition to the clerical labour. In a previous article, written shortly after his arrival in the East, one of the writers referred to the unwillingness of the average native clerk to carry

out changes introduced in the forms or system in vogue in offices, and nothing has occurred to alter his views on this subject

The Manager, of course, is the party ultimately responsible for all cash expended on the Estate, and it is our object to burden him only with the actual expenditure, leaving the final records of results to other parties to frame

Responsibility
for Cash Expen-
diture

On the younger Estates, at least, there is great need for the introduction of a system under which the clerical work shall be divided among the Estate assistants and native staff, leaving the Manager only to deal with cash payments and the consideration of completed figures

Division of
Clerical Work
on Estate

We think it would be a wise provision if the assistants on all Estates were made to spend a fixed proportion of their time in the office, and thus become acquainted with the ultimate destination and result on paper of the sums paid in the field, and the relative costs and values of the field work

Training of
Assistants in
Accounts

It is too often the case that assistants are allowed to "drift" in this respect, and while the result may produce eminently successful Field and Labour Managers, it cannot be expected to produce efficient Estate Managers, or Administrators, in so far that an assistant brought up without any office experience, if promoted—even temporarily, perhaps, through the sudden illness of his superior—is entirely dependent on his native clerical staff, and is not in a position to frame or despatch even the simplest Returns with any certainty of their accuracy, nor is he competent

to settle a question of administrative policy involving a large expenditure, if he is absolutely without experience of the effect of the expenditure of large sums of money, in relation to the general financial progress and position of his Company. A few hours per day, during some months of each of the first two years of his apprenticeship, would help most considerably towards fitting the young assistant for senior positions.

If the head assistant be made responsible to the Manager for all Accounts, and is allowed to delegate the detail to his juniors in the European staff, the difficulty is easily solved, and the task of the Manager, which becomes that of surveying totals only, is thereby lightened, though not made less responsible.

It is hoped that the following suggestions may be of value.

The simplest, and, in our opinion, the ideal method of dealing with the Accounts on a non-producing Estate is for the Manager to keep under his personal supervision only

- (1) Pay Rolls and relative distribution statements
- (2) Cash Book
- (3) Contractor's Ledger

Pay Rolls, Daily Report, and Check Rolls — The Pay Rolls record the wages due to coolies, and are made up daily from small field Check Rolls kept by the native field conductors and assistants. These small Check Rolls show the value of the work performed by each gang and the names of the coolies.

Each field conductor is responsible for his own gang, and his book is regularly inspected, or is made up, by the assistant in charge. The assistant, on his part, is generally made responsible for the balancing of the Daily Report containing the details of work done by all coolies in his department or division. A draft form of Daily Report is appended, and it may be pointed out that the daily totals may be carried forward in the "Remarks" column, if desired, so that at the close of each month the Manager only requires to add the final figures of each assistant's Daily Report, in order to satisfy himself that the Pay Roll total is correct. In cases where each gang has a separate Pay Roll, even this is unnecessary.

Under ordinary circumstances the Pay Rolls are written up by the clerical staff in the office and the totals extended in pencil at the end of the month. From a week to ten days' pay is kept in hand (except where advances have been given or where coolies have been paid off and discharged during the month) and during this period the assistant has to balance the monthly totals with the details shown in his field Check Rolls and Daily Report. The clerical staff can then collect the details and values of the total work done during the month under proper headings of accounts chargeable.

Theoretically, it is highly desirable that the coolies of a gang should not be paid by the assistant who is responsible for that gang, but in practice this cannot be satisfactorily carried out, for the coolies look to the European who is their master in the field to settle all disputes which may arise at the time of payment, and, further, it might create a bad impression among the labour force if they got the idea that an assistant is not trusted to pay his own coolies.

On large estates the coolies' quarters may be situated at various spots somewhat distant from the Manager's house and the office, and if it is desired that all pay should be settled on the one day, there must be several centres at work simultaneously. On the smaller Estates, however, which we are now considering, it is suggested that the senior assistant be made responsible for the settlement of all Pay Rolls, and that each junior assistant be in attendance when his gangs are paid, to settle disputes, and to

Settlement of
Pay Roll dis-
putes

Simultaneous
Payment of
Wages

identify the coolies as they come forward. After completion of the pay, each Pay Roll should be made up (a separate Roll being kept for each large gang) and all extensions completed in ink, and the head assistant should then balance the cash, and make up his note of the sums remaining in hand, to be submitted to the Manager.

responsibility
of Payment of
figures

Under this system the only person who handles the cash is the head assistant, and as each Pay Roll can be returned to the office, for completion by the clerical staff, as the coolies of that gang are paid off, there is little delay in getting out the final figures, and the assistant is soon relieved of his responsibility for the cash remaining in his hands, which generally meets with his views entirely. Further, any errors made under this system are quickly traced, and adjusted at the time.

• Advances

On some Estates, especially those which have been long established, it is usual to supply the coolies with rice at fixed prices, the estate being in a better position to purchase large consignments at a moderate price, and being less exacting in the way of demanding profits, than the native shopkeeper. In the event of there being a loss on the Rice Account, this is generally borne by the Estate, the reason being that if coolies can purchase rice (their staple food) cheaply, they are less likely to abscond, and that the small loss on rice is more than counterbalanced by the saving in recruiting expenses and the costs of following and arresting deserters. Such loss on rice, then, is quite a fair charge to Immigration (or Recruiting) Account.

at the close of the year, since the Estate is not making a purely trading loss and does not set out with the idea of making a profit from its coolies on the rice

As an alternative method of encouraging labour to remain on the Estate, some Managers allow a native shopkeeper to occupy a shop or "kedai" on the Estate, rent free, and even build premises for him, in consideration of his supplying to the coolies staple necessities—such as rice and vegetables—at fixed prices, which are previously submitted to and approved by the Manager. In this case the shopkeeper, of course, makes his profit on "side lines"—liquors, clothing, cheap ornaments, and all articles not specifically mentioned in the list of necessities supplied to the Manager. Incidentally, it may be mentioned that "short weight" is also a profitable branch of the shopkeeper's business.¹

In the case of Javanese coolies, imported under contract approved by the Dutch Government, the supplying of rice and vegetables is made compulsory, and in some cases in which Chinese Sinkeh coolies have been employed, the terms of their contract also include the supply of rice, bedding, and clothing, and even the attendance of a barber—the cash wage being correspondingly reduced. Cases such as these latter present some difficulty to the average Estate Manager, in making up his Accounts, as they involve Journal Entries transferring the monthly charge applicable. We shall deal with this matter later on, but meantime annex a specimen page of Monthly Pay Roll in a form in common use locally on many Estates, which may help to explain matters —

Estate Shop

Indentured
Coolies
RationsMonthly
Pay Roll

Form II —

Sl. No.	Name of Coolie	MONTHLY PAY ROLL OF																														Total Days Worked	Rate of Pay
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
15	Raman	I	I	I	I	I	I	S	I	I	I	I	I	I	S	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	40
16	Appoo	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	6
17	Poonasamy	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	9
18	Kuppasamy	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	22
19	Villasamy	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	17 1/2
20	Kumaran	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	6
21	Ragapan	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	8
22	Vellayan	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	15
23	Gopal	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	27
24	Perumal II	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	27
		9	9	9	8	9	9	17	6	6 1/2	6	5	5	5	2	3	4	3	4	5	4	5	3	4	4	5	4	4	4	4	4	1,46 1/2	

A = Absent without leave H = Hospital S = Sick in Coolie lines, but not ill enough to be sent to hospital L = Absent with leave
 I certify that the above Coolies have worked for the periods stated, and that this Wages Sheet is correct in every detail

Assistant in Charge

RUBBER COMPANIES' ACCOUNTS

13

FSTATE
for the Month of

1911

Amount of Wages	Cash Advances during Month					Total Cash Advances during Month	Sundry Deductions Fines, &c	Total Deductions	Unclaimed Wages (from last month)	Net Sum Payable	Native Marks	Wages Unclaimed on Pay Day carried forward to next Pay Roll	Remarks
	1st Week	2nd Week	3rd Week	4th Week	5th Week								
10 80	2	2 40		1		5 40		5 40	2	7 80	x		
2 40	1	3				3		3		1 40		1	40
3 60	2	2				4		4	1	1 60		1	60
3 80										8 80	x		Write off
7 40	1	1	1	1		4		4		3	x		
3 20										2 40	x		
										3 20	x		
6 80		3 40				3 40		3 40	3	5 50	x		Paid to Assistant Lallang
10 80			1	2 50		3 50	50	3 50		7 30		7	30
													Fine 50 Cents in Hospital on Pay Day
58 60	6	11 80	2	2	2 50	24 30	50	24 80	7 20	41		10	30

Passed

We certify that the above wages were paid to the Coolies, and that the native marks were affixed in our presence on 19

Manager

Assistant

Clerk,

The items are self-explanatory, but it might be explained that the system of weekly advances is not usual, and it is more usual to have a fortnightly Pay Roll, if the Manager desires to keep the coolies from getting into debt. The native marks (×) should theoretically be affixed by the coolies themselves, but in practice this is seldom done, and the assistant pays out the money, the coolie's name and number being called out by the clerk, who marks the Pay Roll accordingly. The Pay Roll should first be made up in the office at the close of the month, and forwarded to the assistant responsible for the gang. He checks the totals, completes the certificate on the left page and then returns to the Manager, who compares with the distribution of wages shown in the Daily Report, and if satisfied that value has been secured for the work detailed, appends his signature, and thus authorises the payment of the balance due, which may thereupon be drawn by the head assistant from him on pay day.

After paying, the items not marked with a (×) are carried into the " Unclaimed Wages " column, the totals completed, and the balance in hand should be returned to the Cashier or Manager by the Assistant.

In connection with the small specimen sheet shown, the Manager's Cash Book would contain the following entries —

In the course of the previous month, under various dates—

Paid advances, Tamil Weeding Gang — \$6, \$11 80,
\$2, \$2, and \$2 50 = \$24 30

On Pay Day—

Paid Tamil Pay Roll for month of ----	\$58 60
Amount of unclaimed wages paid on Tamil Pay Roll	7 20

Received Fines, Tamil Pay Roll	50
Cash Advances, Tamil Pay Roll, refunded	24 30
Refunded by Assistant, unclaimed wages Tamil Pay Roll	9 30
Refunded by Assistant, unclaimed wages written off	1 00

In this way all items connected with the Pay Roll are passed through the Cash Book without the necessity for the Manager using a Journal, and yet in a perfectly simple and comprehensible manner

The total appearing in the column headed "Wages ^{Unclaimed} _{Wages} unclaimed on Pay Day " at the end of one month must, of course, correspond with the total brought forward in the column headed " Unclaimed Wages from last month " in the succeeding Pay Roll, under deduction of any sums written off. Such sums should be authorised, and the total thereof initialled, by the Manager, who would doubtless inquire into any large balance so dealt with. In the case of deserters it is usual to carry forward sums to their credit for about three months before writing off, while in the case of deaths, or coolies in hospital, it is not uncommon for the wages earned to be paid to the dependants of the coolies concerned—a note of the actual person drawing the cash being made in the " Remarks " column

It is, in the opinion of the writers, most essential that provision be made in the Pay Roll for the recording of wages unclaimed, and that estate auditors, whether local or at home, make inquiry into the system in operation, as the total sum involved in the course of a year is generally a substantial one, and it is by no means uncommon to see no entry of these sums in the Manager's Accounts. On querying the matter, the excuse has often been put forward that all wages are paid in full, and that sums unclaimed by the coolies personally are handed to their field conductor, or to the shop which has advanced provisions to them. It has even been stated to the writers that these sums are held by the Manager without record, and are handed out in the case of native festivals to which the Estate is expected to subscribe, or are given as bonuses to coolies who keep their quarters, compounds, or gardens clean and tidy. There is no objection, of course, to such bonuses or subscriptions, but they should be shown in the Accounts, and the simplest method of classifying these objections on the part of the Manager is to call them "irregularities" and to insist that a proper record of unclaimed wages be kept. Otherwise, of course, the cash balance will never correspond with the sum shown in the Cash Book. This is referred to in a later paragraph.

The keeping of Pay Rolls in cases where rice is advanced to coolies, instead of cash, is apt to become rather more troublesome. For some reason Managers are more likely to over-advance coolies in respect of the value of rice supplied than of

actual cash, and provision requires to be made in the Pay Rolls for this contingency The system under which rice is given out is generally as follows Rice is issued to the coolies from the Rice Store at regular intervals—say once a week—up to the value required by the coolie, but not exceeding the wages earned, which are ascertained from the Pay Roll Special cases—*e g* where coolies are sick, but not in hospital, or where the wages earned do not amount to sufficient to cover the coolie's actual living requirements—are authorised by the assistant The total amount of rice issued must, of course, balance with the value as shown in the Pay Roll, so that the balancing of Rice Account from that point of view presents little difficulty to the Estate assistant whose business it is to supervise the Storekeeper The weekly details are entered direct in the Pay Roll, and at the close of the month the broken period (if any) of a week is closed off and also entered up The Form of Pay Roll adapted to an Estate where rice advances only are allowed might be somewhat in the following style —

Rice Advances
Records

RUBBER COMPANIES' ACCOUNTS

**Form III —
ESTATE
for the month**

191

[illegible]

Passed

Note —Left Sheet should be printed exactly as in Form II

We certify that the above wages were paid to the Coolies, and that the native marks were affixed in our presence on _____ for _____

Manager

Assistant

Clerk

The Cash Book entry on Pay Day would be as follows —

Received Tamil Check Roll		Paid Tamil Check Roll for	
Rice advances viz —		the month of	\$58 60
Previous month	\$4 56	Paid unclaimed wages from	
Current month	39 52	last month, Tamil Check	
Received Fines, Tamil		Roll	7 20
Check Roll	50	Rice advances due on	
Wages unclaimed on Tamil		Tamil Check Roll carried	
Check Roll refunded by		forward	76
Assistant	7 96	Do written off	60

The system outlined would appear to necessitate the transfer of the Pay Rolls between the office and Rice Store unnecessarily, but it may be explained that the Rice Store often forms part of the same building as the office, so that little difficulty need be experienced in this connection. It may, however, be thought that the constant use of the Pay Rolls will result in their being soiled or torn, and possibly the alternative of keeping a Rice Book will be more attractive to certain Estates. The weakness of the alternative system, however, lies in the fact that the Storekeeper has not in front of him the record of wages, and thus cannot keep a systematic check against over-advances to coolies.

Drafts of Rice Book, and Pay Roll in use in conjunction therewith, under this latter system, are appended —

Form IV —

RICE ISSUED

During the month of

191

No	Coolies Names	No of Gantangs					Total Weight	Rate per Gantang	Amount transferred to Pay Roll	Remarks	Due by Coolie from last month
		1st Week	2nd Week	3rd Week	4th Week	5th Week					
15	Raman	4	4	6	4	2	20	260	5		
16	Appoo	4					4	"	1		1 96
17	Poonasamy	6	2				8	"	2		
18	Kuppasamy	4	4				8	"	2		
19	Villasamy	6	6	6	6	4	28	"	7		
20	Kumaran	4	4	6	6	2	22	"	5		04
21	Ragapan	6	4				8	"	2		
22	Vellayan	6	6	4	6	2	10	"	2		56
23	Gopal	6	6	6	6	4	28	"	4		
24	Perumal II	4	6	28	28	14	152	"	7		
		46	36	28	28	14			39		
							152		52		

191

RUBBER COMPANIES' ACCOUNTS

This system involves the copying out of the coolies' names from each Pay Roll, and also of all contractors' names, at the beginning of each month, and where the labour force is large this is a consideration. It is, however, an alternative which commends itself to some Managers, and for that reason it has been thought advisable to submit the forms

Abstract

The Abstract of total wages supplied by the Manager to his Agents is as follows --

Form VI —

DISTRIBUTION OF LABOUR for month on						191	
Description of Work	Total Days worked by Labour Force	No in Monthly Report Form	Amount	Description of Work	Total Days Worked by Labour Force	No in Monthly Report Form	Amount
Construction of Roads		10		Pests Vermin and Diseases (Mature Areas)		62	
Do Bridges		11		Weeding	do	59	
Do Drains		12		Supplying	do	60	
Do Watergates and Tim bankments		13		Pruning	do	63	
Fencing		14		Tapping and Collecting		69	
Construction of Wells		15		Packing		76	
Eradicating Lallang (New areas)		16		Factory Wages		93	
Nurseries		17		do Watchman		97	
Transporting Plants		18		Recovering Deserters		113	
Lining, Hoisting, and Planting		19		Cart Drivers		124	
Supplying (new areas)		20		Watchmen and Cooks		126	
Pests, Vermin, and Diseases	do	40		Census		127	
Weeding do		41		Repairs to Coolie Lines		131	
Weeding (Immature Rubber)		48		Upkeep of Roads		136	
Supplying	do	49		&c			
Pruning	do	50		&c			
Pests Vermin and Diseases do		52					
Forward				Total			

This, as already indicated, is made up from the Daily Reports kept by the assistants, and the total must, of course, balance with the totals of the individual Pay Rolls of the various gangs, which, in turn, balance with the Field Check Rolls. The various headings of "Description of Work" are, of course, not printed on the Return rendered by the Manager, but are written in, from month to month.

mixed Cash
'rice
ices

We have still to consider the case of Estates on which both cash and rice are advanced to coolies, and in such cases it would appear that some system of Rice Book must be kept, as the multiplication of columns involved by five weekly "Cash Advance" columns and five weekly "Rice-Advance" columns would undoubtedly be vexatious both to Manager and staff. Under such circumstances we suggest that the cash advances be entered direct in the Pay Roll, but that rice advances be included therein in one total at the end of the month. It would be absolutely necessary, in that event, that the Pay Roll be produced at the Rice Store when rice is being issued, as the risk of over-advancing is greatly increased, and it is essential that the storekeeper be kept in touch with the financial position of each coolie. In the case of a store run by the Estate, this is certainly necessary, and it is advisable also, though difficult, where the store is run by a local shopkeeper, for it follows that what is lost by him through the failure of one coolie to pay his small bill is added on to the other coolies in some way or another,

with the result of discontent and friction between the shopkeeper and the Estate force, and, on their complaining, possibly between Manager and shopkeeper, leading eventually to discontent and an increase in desertions or resignations by the coolie force.

In the opinion of the writers, the system of regular cash advances to coolies, almost up to the value of their earnings, is unsatisfactory for many reasons. It teaches the coolies habits of improvidence, and, moreover, gives the Manager a weaker control of his labour force, for, where a coolie knows that he loses little financially by deserting, his natural inclination is to desert on the slightest provocation, and to seek an Estate where he may live contentedly, doing the minimum of work and receiving the maximum of advances. There are unfortunately too many of these wandering coolies in the country already, who will never be of real value to any Estate, and as the system of indenture is now obsolete in the case of Tamils (who are probably the worst offenders), and the formal notice of one month required by law is rarely given, the expense of searching for and arresting these deserters is seldom justified by the result—indeed Managers are only too glad to be rid of the undesirables, who disturb the regular labour force. On the other hand, it is a practical impossibility to withdraw the system on Estates on which it is in force, without losing the labour force *en bloc*. If advances must be given, the system of rice advances appears to the writers much more sound, and more easily controlled.

Objections to
Cash Advances.

Contract Coolies—As mentioned in a previous paragraph, some Estates have coolies on indenture for periods varying from one to three years—the terms of contract varying according to the terms fixed with the Immigration Departments of the various countries concerned. In the case of Javanese, imported under contract approved by the Dutch Government, the Estates are bound to supply coolies with rice and certain vegetables at fixed prices, and to return the coolies to their own country (if they desire to go) on the expiry of their indenture. The Estates are further bound to advance certain cash sums to the coolies on arrival, and are allowed to deduct a fixed sum from each week's or month's wages towards this advance—no coolie being allowed to leave until this advance is redeemed. With Chinese Sinkehs, imported under contract approved by the Protector of Chinese, the Estate is bound to supply rice, clothing, bedding, and barber. The initial cost of importing contract labour is somewhat high, varying between \$30 and \$80 per head, and as it is manifestly unfair to write this sum off against the year or month in which the expense is incurred, some method has to be devised by which each month, during which an indentured coolie works, bears a proportionate part of the expense of his importation. In practice, the liability of repatriating the coolies is of little importance, as, if satisfied with the treatment they receive, they are generally willing, on payment of a small cash bonus, to remain on as free coolies. Presuming, then, that the cost of importing a

Javanese coolie amounts to \$80, of which \$10 is recoverable from his wages during the term of his indenture, we are left with entries as follows —

Recruiting expenses	\$70
Coolie's Advances (recoverable)	10

The coolie undertakes to do 900 days' work at the rate of 40 cents per day—the Manager to be the judge of a proper day's task—subject to any disputes being settled by a local official of the Immigration Department. The actual cost of a day's work, therefore, presuming that the coolie survives for the whole period of indenture, and does not desert and remain untraced, is 40 cents plus $7\frac{7}{8}$ cents = $47\frac{7}{8}$ cents per day. Separate Pay Rolls are kept for indentured gangs, and at the close of each month a Journal entry should be made, debiting the various branches of account in proportion to their distribution of the labour, already referred to, at the rate of $7\frac{7}{8}$ cents per day's work completed, and crediting Recruiting Expenses with the total so arrived at.

Journal Entries
in connection
with Contract
Coolies

The balance, representing the value of days not worked by coolies who have died, or by untraced deserters, should be written off periodically under Immigration Expenses, and split up among General Charges, or debited direct to Head Office, and thence written off to Profit and Loss Account, as may be decided by the Directors. The proportion of cash advance recoverable presents no difficulty, but columns should be added in the Pay Roll to show.—

Journal Entries
in connection
with Contract
Coolies.

" Immigration Advances made,"

do	balance from last month,
do	deducted this month,
do	balance carried forward to next month,

and a column should also be inserted to show
" Advances written off "

It is in connection with such matters that the average Estate Manager finds difficulties, and as a rule his native clerical staff is not sufficiently expert to assist him in the matter, or to check and point out errors of principle or of detail. It is highly desirable that all details of those contract advances be kept in the Pay Roll, and though multiplication of columns may at first appear to the Manager merely a new method of introducing aggravating details to the work for which he or his European assistants are responsible, the writers have found that, after careful explanation, Managers are generally satisfied that this is better than keeping numerous books, lists of coolies, and other memoranda.

Estate
Manager's
Cash Book

Cash Book —The Cash Book in general use on estates is the ordinary double-column Cash Book, but the writers venture to suggest that it is less trouble ultimately to the Manager to keep his Cash Book somewhat in the following form —

Form VII —
Left Sheet

[Right Sheet									
Date	Details of Receipts	Total Receipts	Date	Details of Payments	No. in Monthly Report Form	Sundry Accounts	Pay Roll Advances and Payments	Contractors Advances and Payments	Total Payments

By using a Cash Book in the above form, the balancing of Pay Roll and Contractors' Accounts is greatly simplified, and the framing of the Monthly Returns is thereby accelerated

**Estate
Vouchers.**

Vouchers—The difficulty of obtaining proper vouchers for payments made is one which presents itself at every point, in checking Estate Accounts Natives will, as a rule, sign any paper which they are ordered to, and the value of a receipt represents nothing to them. A great amount of responsibility is therefore placed on the Manager, to see that payments authorised are duly made and authenticated. It is advisable that all native signatures be witnessed, if possible, by a person other than the one making the payment, and this acts as a partial check on money disbursed. Payments to European firms or large native shops are, as a rule, easily verified, and it is only in respect of natives that doubt arises. In some cases, where goods are purchased for cash—only small sums being involved—from local natives, it is quite impossible to obtain receipts, and the usual procedure in such cases is to list such unvouched items and to obtain from the Manager a certificate in the following form —“ I certify that the foregoing “ payments, for which no vouchers are produced, “ were duly made and authorised by me, and that the “ goods mentioned are for the use of the Estate ” In all cases where no vouchers are obtained it is, of course, most necessary that full details of the purchase, or the work paid for, be entered in the Cash Book at the time of payment

It is difficult to make some Estate Managers understand that their Cash Book should be written up daily, and that the balance shown on their Cash Book should represent the actual sum in the safe at any time, and a surprise survey of cash will as often disclose a surplus as a deficiency. The explanation offered in the former case is generally that the Manager's salary, though entered, has not yet been drawn, or that his own money is mixed with the Estate cash, but, in view of the remarks under the subject of unclaimed wages, this statement requires to be carefully verified.

Necessity for
actually verifying
Cash
Balance

In cases of deficiency the Manager generally considers that he is doing all in his power to help, and all that can be expected of him, if he offers his own cheque for the difference !

Comment on the subject is unnecessary, and while, on the one hand, it is extremely difficult to make the honest but careless Manager believe that he is conducting the Estate affairs in an irregular manner, the home Directors, on the other hand, would not thank an agent or auditor who raised the ire of a first-class planter to such an extent, by questioning his honesty, that he tendered his resignation on the spot. The personal element enters very largely into this question, and is a most important factor in considering the Accounts of various Managers. Unfortunately this personal element cannot be demonstrated to home auditors or officials except at very rare intervals, and cannot be reduced to figures.

It is conceivable that a Manager may be a first-class planter and administrator, and an absolutely honest

man, and yet make grave errors in his Accounts, while another may have his Accounts in first-class order, and yet be merely wasting his Company's money

These facts will show a few of the difficulties which have to be contended with in connection with Estate agency or local audits. They do not, as a rule, come under the notice of home auditors, for Accounts which pass through the hands of local agents may at least be taken to be arithmetically correct, and the amount of work involved at the Head Office in checking the Foreign Returns, assuming the details to be correct, is small, while the verification of those same details is very often a matter of considerable labour and difficulty

Contractors
Ledger and
Advances

Contractors' Ledger—This is a book of great importance on Estates, and yet it is not by any means in general use. The system in operation on most Estates—that of entering as a month's expenditure the actual cash paid to various contractors, irrespective of whether work is measured up or completed—and, indeed, in some cases not even commenced—is most unsound. It is necessary to explain here that it is customary on some Estates, on fixing a contract with a workman who is known (or presumably known) to be a sound worker, but not a capitalist, to make an advance to him to enable him to purchase tools or materials, or to get together his labour force. The fallacy of entering such advances direct as expenditure is self-evident. It is also customary to advance cash or rice to certain contractors during the month—such advances being

theoretically calculated on the value of work completed to date, but practically being frequently in excess of this value. It is therefore essential that some system be introduced whereby contracts are properly recorded, instead of the details being merely kept in the Manager's or assistant's head, or only recorded on the first receipt granted. The following simple system has been found to work satisfactorily on Estates with which the writers have been connected —

Contractors'
Ledger and
Advances

Each contractor is given a small notebook, ruled with money columns, in which all advances, either in cash or in rice, are debited to him, and his initials are affixed to each debit entry. The continuity of the signatures is at least a partial preventive against forgery. On the first page of the notebook the full details of the contract are entered.

Thereafter, on the debit side of the second page, as stated, appear cash and rice advances. On the credit side appear the description and measurements of work taken over by the assistant in charge of that branch of the Estate—such entries being made by the assistant personally. Any contractor who requires an advance, therefore, presents his notebook to the assistant during his rounds, and if satisfied that work in excess of the total advances (which are immediately under his eye) has been done, the assistant writes the details of the further work done, and his estimate of the amount which can be advanced thereon.

This notebook is then presented by the contractor at the office to the Manager, at the hours at which he

Contractors'
Ledger and
Advances

attends there, and the Manager, if satisfied of the reasonableness of the assistant's estimate, initials the credit entry, and the contractor is then at liberty to draw up to the resulting balance shown from the cashier or rice storekeeper

An account corresponding exactly to the contractor's notebook is kept in the Contractors' Ledger—the full details of the contract being written on the left page, stamped, and signed by the contractor, and by the Manager on behalf of the Estate. As cash or rice is advanced the sums are then debited to the contractor, and the values of work credited per the notebook are copied in on presentation thereof at the office, so that the two books absolutely correspond at each application for payment. By the adoption of a system of this nature, the danger of over-advancing contractors is minimised, and the approximate valuation of work completed during a month (for few contractors will go for a longer period without *some* advance) is available for the books and returns. The following is an example of Contractors' Ledger to be kept in the Estate office —

Form VIII —

Left page

Right page

CONTRACTOR'S NAME

Details of Contract No		Date		Amount	Date		Amount	
I hereby agree to twice changkol falling in Fields Nos and at the rate of \$27 per acre, payment to be made as each area is completed to the satisfaction of the Manager and is measured up I further undertake to complete the work not later than		1912	To Cash	\$100	1912	By work completed		
		Mar 3	Do	150	Mar 18	Do 30 at \$-7	\$81	
		17	Do	200	31	Do 20 at	\$40	
		-9	Rue	65		Do 17 at	499	
		31	Cash	500				
			Balance	65				
				\$1 080				\$1 080
					1912	By Balance	\$65	
					Mar 31			
Date	Signed	Contractor						
Witness	Signed on behalf of the Company							
	Manager							

Contractors
Ledger and
Advances

RECONCILIATION OF CONTRACTORS' ACCOUNTS

[illegible]

Monthly Home Returns — Having settled the general scheme of the bookkeeping necessary on the Estate, we now turn to the Returns which are required for the information of the Directors and Secretaries of the Company

As already indicated, the work connected with those Returns is often of a more complicated nature than that of the ordinary Estate bookkeeping, and is therefore often beyond the abilities of the native clerical staff. As it is seldom that a qualified European assistant can be set aside for the sole purpose of

preparing those Returns, except on the very large Estates, the responsibility to the London officials for their accuracy is beginning to be thrown more on the shoulders of local auditors and local agents. In the opinion of the writers, in cases where local agents of a Company exist, the Monthly Returns can be more accurately framed in the offices of those agents, provided, however, that the following essentials are complied with —

- (a) All bills for goods supplied to the Estate, apart from local cash purchases, are either ordered through the local agents, or copies of the order forms despatched by the Manager are sent to the local agents simultaneously with the despatch of the order
- (b) All cash remittances from Head Office are made to the local agents, and kept in a separate banking account in the name of the Estate
- (c) All bills are paid by cheque from the local agents' office, the cash remittances to the Manager being merely for the purpose of financing the coolies' wages, staff salaries, contractors, and actual cash purchases of goods required for immediate use on the Estate

We are aware that many planters of wide experience do not agree with the " essentials " mentioned, but, with all deference to their views, we would submit that the advantages gained, by adhering to the system suggested, more than outweigh the objections

(a) By having a common centre through which all orders for goods are passed, an absolute check can be

placed on the monthly expenditure *incurred*, and the local agents being situated in the mercantile centres are probably in a much better position to purchase in the best market than the Manager, being in touch with all the mercantile firms, and in a position to compare prices and qualities and order goods on the spot. Further, the fact that orders are so passed acts as a check on the Manager keeping back any expenditure for the purpose of complying with his estimates.

(b) It is becoming more generally realised that, if ^{Necessity for correct Records of Monthly Expenditure incurred} any Returns are to be of value, they must be kept on the basis of expenditure incurred, and not on that of pure cash expenditure, which unfortunately has been the general rule in the past. When officials and Managers will realise that their Returns, when kept solely on a cash basis, are more than misleading, and that the hurried obtaining, at the close of the financial year, of bills outstanding in order to bring those into the expenditure, will probably upset all calculations made in preceding months with regard to costs, a great step will have been taken towards the basis of reliable returns, and of figures which will show the actual result of working. Returns framed on purely cash expenditure (which are unfortunately only too common) are bound to be misleading, for where Managers are left entirely to their own devices, and can at will hold back bills until increased crops enable back expenditure to be passed through their accounts without exciting comment, there is more than a tendency towards irregularity, and consequently the figures so laboriously compiled in Head

Necessity for
correct Records
of Monthly
Expenditure
incurred

Offices and set forth as "costs per pound" or "costs per acre," cannot be taken as even approximately correct. It is not at the Head Office that the mistakes are made, the figures of cost per pound on actual weights delivered and sold there are simple matters of percentage. But the numerous items applicable to tapping and non-tapping areas, the renewal of implements, and the weeding costs, are matters on which few officials in the London Offices are qualified to pronounce judgment. Comparison can certainly be made between individual Estates, but, as we have already indicated, not only are those returns from Estates at the present time often framed on somewhat primitive lines, but the results shown are in many cases most deceptive, however simply the figures may appear to the home officials to fall into their respective "Capital" and "Revenue" headings. Further, as we have also pointed out, the fact that few Estates are working under exactly similar conditions makes comparison a still more perplexing matter, and, until tabulated results on a recognised system are available, the reasons for differences will never be adequately explained. There can be no doubt that figures of cost of production will be the ultimate test of the soundness of any Estate as an investment, and, as it is a generally accepted fact that the time has come when the margin between "cost of production" and "realised net price" is a very narrow one, it is highly desirable that steps be taken to obtain statistical records, on each Estate, which will clearly demonstrate actual costs, which will preclude the charging of excess expenditure to

"Development Account," and which will prevent shareholders' money from being paid out in concerns which will never be in a position to give a profitable return

(b) & (c) It is, of course, essential that a separate ^{Estate Bank Account} Banking Account for the Estate be kept by the local agents. In some cases, where the Estate is situated near a mercantile centre, it may be argued that no useful purpose is served by remitting otherwise than to the Estate Banking Account, to be operated on solely by the Manager, but in our experience this is not correct. For one reason or another it may be necessary for the Estate to overdraw its local Banking Account temporarily, and facilities for this are more easily obtained through the local agents, as mercantile firms, than by the average individual Estate Manager. Further, it is unfortunately not uncommon for the ^{Personal Payments by Estate Cheque} Managers of the Estates, even without any intentional irregularity, to pay private bills from the Estate Banking Account, such payments being deducted from salary due at the close of the month. This is, of course, quite irregular, and causes a considerable amount of trouble in the framing of the monthly accounts, which can be readily avoided. In our opinion a strict rule should be made prohibiting Estate Managers from paying any private bills by the Estate cheque, and if it were possible to notify local tradesmen that Estate cheques must not be accepted in payment of the private bills of employees, and to claim repayment of such amounts, much money would doubtless have been saved to Rubber Com-

panies who have in the past suffered loss through such irregular payments

Further, there is an unfortunate tendency on the part of a Manager to incur unnecessary expense as long as there is money standing at the credit of the Estate Banking Account, and a restraining influence is often exercised by the local agents owing to the mere fact that the request for an exceptional sum to pay wages might be queried

If only the amount required for cash payment of coolie wages, staff salaries, and petty cash purchases is remitted to the Manager, his responsibility is greatly decreased. It is by no means desirable that large sums of cash be kept on the Estate, owing to the liability to theft, especially in outlying districts, and the aim of Managers should be to draw only what must be paid *on the Estate*, and to pay out to the coolies, contractors, and staff, without delay, immediately on arrival of the money, so as to avoid this possibility of theft on any large scale. The less cash, therefore, that is handled in the Estate office, the less is the responsibility of the Estate Manager, and by the means suggested this is brought down to a minimum. It is not a question of not trusting the Manager, but rather that of saving him a responsibility which he should not be asked to take. The arguments adduced for the keeping of the Bank Accounts by the local agents instead of by the Estate Manager, may be considered of little weight, but in the experience of the writers they are sufficient to justify the adoption of the system. Considerable objections may be raised to our contention that orders for supplies

issued by the Managers should be dealt with only through the agents or be intimated to them. The reason for this is not far to seek, as it has unfortunately proved the case in some instances that Estate Managers are compelled to purchase all supplies from their local agents, who stock such supplies, at prices fixed by these agents, and if not actually told so, these Managers understand that, if orders are placed elsewhere, their billet is likely to prove temporary only. It is often the case, too, that a commission is charged by local agents on all goods purchased outside, and as these run up costs to the Estate, the careful Manager is right in objecting to such overhead charges.

Manager's
discretion in
purchase of
Supplies

We quite agree that the position of local agents may be abused, but think that if the Directors of a Company let it be plainly understood that the Manager of their Estates may purchase wherever he wishes, without incurring commission charges, and only stipulate that copies of his orders be intimated to his local agents, the position would be materially improved. If the local agents find that the Manager is purchasing in more expensive markets than they can offer him, it is to the advantage of both Company and Agent that he should have the opportunity of changing. On the other hand, if the Manager can buy more cheaply than the local agents are prepared to supply, there should be nothing to prevent his so doing.

Head Office Returns — The Monthly Returns in use on the various Estates with which the writers have

Head Office
Returns

been connected vary in almost every conceivable way, and often details which are insisted upon in one group, as being essential, are absolutely disregarded by another group. It may be taken as a general rule, however, that the Directors and Home Officials of a Company require the following information regarding a non-productive Estate —

Manager's
Fortnightly
Report

- (a) *Fortnightly or Monthly* — A report on the general progress of the field work and operations of the Estate

A suggested draft form is appended

Form XI.—

STATE

MANAGER'S REPORT for the fortnight ending 191
month

Subjects referred to in Report --												Area Siftment	Mature	Immature
1	General Appearance of Estate													
2	12	Weather										Total Cultivated Area per last Report		
3	13	Expenditure												
4	14	Tapping and Collecting												
5	15	Coagulation Curing and Manufacture										Acres		
6	16	New Clearings										New Clearing taken in during fortnight		
7	17	Roads and Drains												
8	18	Nurseries												
9	19	Labour												
10	20	Buildings												
11		Health of Coolies										Acres		
		Staff										Total Cultivated Area--Acres		

Note.—Each Heading to be reported on—separate paragraphs for each heading, which should be referred to by number
if coding.—State blocks and acreage weeded also cost per acre and date when same were last weeded

Report to be sent direct by Manager to Agents in duplicate each fortnight month

Estate Monthly
Return

(b) *Monthly*—A Return showing —

- (1) General Capital Expenditure not absolutely connected with the Planting operations, such as buildings, live stock, vehicles, &c , subject, for the most part, to varying rates of depreciation, or requiring to be specially stated in the Annual Accounts
- (2) Development expenditure
 - (a) On opening up new areas
 - (b) On areas opened up during previous financial years
- (3) General Charges—Salaries, &c , divisible under the headings of (2), in certain proportions, calculated on a settled basis
- (4) Labour on the Estate during the month
- (5) Acreage Statement and Census
- (6) Rainfall
- (7) Abstract of Manager's Cash Expenditure
- (8) Abstract of Local Agents' Expenditure
- (9) Details of Bills for supplies and other expenditure incurred and properly chargeable against the month, whether paid or unpaid
- (10) A Statement of the local financial position at the close of the period covered by the Return

The first three headings of (b) naturally group themselves together, and it is most common to find Forms in use which show all those on one large sheet. The writers, however, have come to the conclusion

that the effect of so doing is to compress the headings unduly, and to encourage the practice of making the printed sub-headings "meet the case," and submit that each heading is sufficiently important to justify separate pages being used. Draft sub-headings are submitted which may be taken as examples, but the writers would point out, in connection with these, that each Estate has its own peculiarities, that the printed sub-headings should never be made to "meet the case," but that whenever a fresh item of expenditure crops up, a new sub-heading should be opened to record it. What may be eminently suitable for one Estate may be quite unsuitable for its neighbour, and in addition the Directors of one Company may desire special detailed information regarding the cost of certain operations which another Board may not consider necessary. A convenient size for those Returns is 11½" by 13", and if printed on thin paper they can be typed in the agents' office in triplicate - one complete copy being sent to Head Office, and one to the Manager, while the third should be retained in the agents' office for reference. A general scheme of headings might be put as follows -

Estate Monthly
Return

Left hand side]

ACCOUNTS for the Month of

48

RUBBER COMPANIES' ACCOUNTS

	General Capital Expenditure	Total days worked by Labour Force	Month's Cash Expenditure	Journal Entries	Total for Month	Brought forward from last Month	Total to Date	Estimates for Year
1	Manager's Bungalow							
2	Assistants' Bungalow							
3	Permanent Coolie Lines							
4	Office							
5	Owner and Clerks' Quarters							
6	Hospital							
7	Storehouses							
8	Live Stock and Vehicles							
9	Bicycles and Accessories							
10	Construction of Roads							
11	Do Bridges							
12	Do Drains							
13	Do Watergates and Embankments							
14	Cost of Survey and Subdivision of Estate							
15	Furniture							
16	Fencing							
17	Tools, Fittings and Stock of Medicines							
18	Wells and Permanent Water Supply							
19	Land Purchased							
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
	Total General Capital Expenditure							

RUBBER COMPANY LIMITED

191

Development Expenditure	Total days worked by Labour Force	Months Cash Expenditure	Journal Entries	Total for Month	Brought forward from last Month	[Right hand side]	
						Total to date	Estimate for Year
New Clearings (opened up during current financial year)—							
33 Felling Jungle							
34 Clearing (Burning Stacking &c.) Jungle							
35 Eradicating Lallang (on new areas)							
36 Seeds, Stumps Nurseries and Baskets							
37 Transporting Plants (from Nurseries on from Railway)							
38 Laying out, and Planting							
39 Supplying (failures on current year's Clearings)							
40 Pests, Vermin, and Diseases							
41 Weeding (on new areas)							
42							
43							
44							
45							
46							
47 Proportion of General Charges							
Total Expenditure on New Clearings							
Immature Rubber (areas opened up prior to current financial year, but still immature)—							
48 Weeding							
49 Supplying							
50 Pruning							
51 Manuring							
52 Pests, Vermin and Diseases							
53 Timber Clearing							
54							
55							
56							
57							
58 Proportion of General Charges							
Total Expenditure on Immature Rubber							

PAGE 3

General Charges		Total Days worked by Labour Force	Month's Cash Expenditure	Journal Entries	Total Entries for month	Brought for ward from last month	Total to Date	Estimates for Year
104	European Staff Salaries							
105	Native Staff Salaries							
106	Allowances							
107	Local Agency Fees							
108	Visiting Agency Fees, and cost of Special Report							
109	Legal Fees							
110	Quit Rent							
111	Local Assessments							
112	Immigration and Recruiting Expenses							
113	Recovering Deserters (to include Warrants and Court Expenses)							
	Medical (to include transport of coolies to hospital and burial expenses)							
115	Subscriptions to Native Festivals							
116	Rewards for Special Services							
117	Cablegrams							
118	Stationery, Printing, and Advertising							
119	Local Telegrams, Postages and Petties							
120	Fire Insurance							
121	Interest							
122	Bank Charges and Transport of Cash							
123	Travelling Expenses							
124	Transport of Miscellaneous Goods (not charged direct)							
125	Tools and Stores consumed for Field Work							
126	Watchmen and Estate Cooks for Coolies							
127	Cost of Census of Trees							
128	Temporary Quarters for Coolies							
129	Repairs and Upkeep of Buildings							
130	Do Office							
131	Do Permanent Coolie Line							
132	Do Overseer and Clerks							
	Quarters							
133	Do Hospital Buildings							
134	Do Storehouses							
135	Do Live Stock and Vehicles							
136	Do Roads							
137	Do Bridges							
138	Do Drains							
139	Do Water Supply, and Water Supply to Field Coolies							
140	Do Furniture							
141	Do Bicycles							
142								
143								
Total General Charges								

APPORTIONMENT OF GENERAL CHARGES FOR MONTH

	Month's Expenditure	Year's Estimates	Amount	Per
New Clearings				
Immature Rubber				
Mature Area				
Total Planted Area				

Acres
Acres
Acres

PAGE 4

Acreage Statement	Total (Acres)	Planted Area (Acres)	Unplanted Area (Acres)
Clearings in Progress			
Immature Rubber			
Planted 191			
Planted 191			
Planted 191			
Planted 191			
Producing Area at trees per acre			
Land occupied by Buildings &c			
Reserve Land			
Waste Land			

Note — Total Trees tapped daily this month

Total Area

ABSTRACT OF EXPENDITURE

- General Capital Expenditure
- Opening up Estate (New Clearings,
- Expenditure on Immature Areas
- Expenditure on Mature Areas

Total to Date

Deduct Total Last Month

Month's Expenditure

Last Month's Expenditure \$

Note — General Charges have been allocated to Nos (2), (3), and (4) in proportion to the areas opened up monthly, as shown in the Acreage Statement above

PAGE 4 (continued)

Rainfall

For Previous 3 Financial Years						For current Year	
191		191		191		Date	Inches Pts
Ins	Pts	Ins	Pts	Ins	Pts		
October						1	
November						2	
December						3	
January						4	
February						5	
March						6	
April						7	
May						8	
June						9	
July						10	
August						11	
September						12	
						13	
						14	
						15	
						16	
						17	
						18	
						19	
						20	
						21	
						22	
						23	
						24	
						25	
						26	
						27	
						28	
						29	
						30	
						31	
						Total for month Previously this year	
Total						Total to date	

RESIDENT LABOR STATEMENT

	Total at close of last Month				Total at end of Month				Average Daily Number at Work
	On the Estate	In Hospital	Arrivals during Month	From Hospital during Month	Died during Month	Deserted during Month	Paid off during Month	Sent to Hospital during Month	
Tamils									
Javanese									
Chinese									
Malays									
Others									
Average Daily Wage during Month									
Cents									

PAGE 5 (continued)

STATEMENT OF COMPANY'S TITLES

No	District	Area	Quit Rent	By whom held	Special Conditions	Remarks
		a				
		r				
		p				

PAGE 6

ABSTRACT OF MANAGER'S CASH ACCOUNT FOR THE MONTH OF 1911	
Receipts	Payments
Balance in hand at close of last month	Balance due to Manager at close of last month
Received from Local Agents	State Expenditure
Advances recovered from Coolies	Wages for month
Rice repaid (or sold for cash)	Cash Expenditure other than Wages
Unclaimed Wages (Deferred Wages)	Advances to Coolies on Check Roll
Fines and Forfeited Wages	Advances to Contractors
Sale of Rubber Stumps (or other products)	Unclaimed Wages from previous months paid (Back Wages)
	Rice Purchases
	Remittances to Local Agents
Balance due to Manager at close of month	Balance in hand of Manager at close of month

PAGE 6 (continued)

ABSTRACT OF LOCAL AGENTS' BANK ACCOUNT FOR THE MONTH OF

19

Receipts		Payments	
\$	c	\$	c
Balance in Bank at close of last month		Balance due to Bank at close of last month	
Remittances from Head Office		Remittances to I state	
<i>l</i> @ exchange		Rice Purchased	
<i>l</i> @ exchange		Sundry Creditors viz —	
Remittances from Fete			
Bank Interest credited			
Balance due to Bank at close of month		Balance in Bank at close of month	

AGENTS
LOCAL — CERTIFICATE
ALDROZAS

We have examined the foregoing Accounts and certify that in our opinion they are sufficiently vouched and that to the best of our knowledge and belief the expenditure is correctly abstracted and is allocated to the proper Accounts.

Date

Local Agents

Local Auditor

PAGE 7

RUBBER CROP ACCOUNT for the Month of June 1911

Harvested	No 1 Sheet lbs	No 2 Sheet lbs	Crepe lbs	Total lbs	At same date last year lbs	Despatched	Const No	Cases	No 1 Sheet lbs	No 2 Sheet lbs	Crepe lbs	Total lbs
Brought forward This Month	23 259 7 326	599 23	4 342 917	28 700 3 675	18,228 5 360	Brought forward This Month	112 113 114 115 116 117	162 9 9 9 9 19	17 742 1 186 1 186 1 049 1 185 1 159 1 189	83	2 914	21 040 1 186 1 186 1 177 1 185 1 159 2 466
						Consignments in trans- sit (19 cases)		2-6	24 691	511	4 191	29 193
						Balance in Store			2 396 4 194	138 182	1 068	2 534 5 448
Total	31 285	831	5 259	37 375	23 588	Total		226	31 285	831	5 259	37 375

**Estate Monthly
Returns**

These Returns are made up on loose sheets, in the agents' office, and after completion should be neatly bound up and despatched to Head Office. The size and thickness of the Return will, of course, depend entirely on the number of sheets occupied by the "Details of Expenditure" and "Local Journal Entries," and will vary therewith.

If properly framed, the Return should do away with the necessity of keeping elaborate Books of Account in the Head Office, and it is suggested that the following procedure be adopted there —

**Books kept at
Head Office**

Apart from the Accounts concerning Head Office alone—Directors' Fees, Preliminary and Promotion Expenses, Secretarial and Audit Fees, and Sundry Head Office outlays, only one account need be kept—called "Eastern Account." To this account would be debited all remittances to the East, and nothing further whatsoever, with the exception of the entry noted below, until the close of the financial year. These Accounts, of course, being kept in sterling, require reconciliation with the Statements rendered from the East, but as the standard rate of exchange is almost invariably adopted, this presents no special difficulty.

**Eastern
Account**

At the local agents' office an account for "Head Office" would be opened, and the proceeds of remittances credited thereto at the actual rate realised. Each month, on receiving the Return from the East, the Head Office would only require to make one entry

(and then only provided a remittance had been ^{"Eastern Account"} despatched during the month in question) viz —

Difference in Exchange *Dr*

To Eastern Account

(For difference between standard rate of
exchange (2s 4d) and actual pro-
ceeds of remittances of)

The balance on Eastern Account, when converted, would then exactly correspond with that in the Eastern Books under "Head Office" Account, and as the Head Office Account appears in the local Trial Balance of the Eastern Books, the matter would rest there

At the close of the financial year the Eastern Agents would transfer to Head Office Account all balances not representing stores, cash, debtors, and creditors, and the Head Office would make similar entries in their books, in sterling. As the details of these entries appear in the "Journal Entries" sheet the conversion into sterling and inclusion in the Head Office Books presents no difficulty and calls for no explanation

The largest item transferred to the debit of Head Office Account would, of course, be "Estate Expenditure," representing the total sum appearing on pages 1 and 2 of the foregoing forms. It is suggested that in the Head Office Books this be divided, and that separate accounts be opened there for each of the headings detailed on page 1—the object being to keep separate records of the actual cost of buildings, furniture, and other accounts subject to different

" Eastern
Account "

rates of depreciation, which are useful for reference. The total of the accounts on page 2 might be entered in Head Office Books as " Development Expenditure," or, if desired, under two headings, " New Clearings " and " Immature Rubber ", but, in the latter event, it must be borne in mind that " New Clearings Account " must be transferred to " Immature Rubber Account " on opening the next year's accounts.

During eleven months of the year the single monthly entry connected with the receipt of Eastern Returns at Head Office is the only one which is necessary, as all other particulars are available from the Returns themselves. These form a permanent record of the detailed transactions, and the system of journalising them in detail monthly, which we understand to be in operation at the Head Office of many Companies, appears to the writers merely to involve duplication of work executed in the East, and to serve no really useful purpose.

There remain only the questions of---

- (a) Supplies sent from Head Office to the Estate direct
- (b) Head Office Expenditure

Supplies sent
from Head
Office

(a) *Supplies sent from Head Office to the Estate direct*—These are generally of a capital nature, such as machinery or iron buildings, and in such cases present no difficulty, as they can be debited to the nominal account without passing through " Eastern Account " at all. Should it be desired, however, to pass these through the Estate Returns, so that the Manager may know the actual cost, including

freight, local transport, and erection, Head Office should debit the amounts to Eastern Account, and forward an advice note to the local agents, on despatch of the goods, stating that Eastern Account had been debited, and requesting that corresponding entries be passed in the local books. Such advices should be numbered consecutively, commencing from the beginning of each financial year, for the information of the local agents and auditors, to obviate the possibility of any being lost in transit, or omitted.

Supplies sent
from Head
Office

In the event of Head Office purchasing and despatching to the Estate any tools or supplies, or of their paying part salaries at home, the same procedure should be adopted, and the division of expenditure carried through locally, on arrival of the goods or advice note. The matter of salaries payable at home should be advised whenever the arrangement is made, and care should be taken that Head Office is credited and the Estate Expenditure debited in the month to which the expenditure applies, so that the proper division in terms of the acreage statement may be adhered to.

(b) *Head Office Expenditure*—All Head Office Expenditure consisting of Secretarial, Directors' and Auditors' Fees, Advertising, Cables, Stationery, &c &c, should be divided in the same proportions monthly as the Estate development expenditure, if it is desired to have a true record of the actual cost of new clearings and of immature rubber expenditure. In effect, however, so long as the Estate has not reached the producing stage the same ultimate result

Head Office
Expenses

**Head Office
Expenses**

will be arrived at by debiting these balances to Development Account at the close of the financial year, after making the final entries connected with the Eastern Account referred to above

When the Estate reaches the producing stage the Head Office expenditure will, as a rule, appear separately in the Profit and Loss Account

It may, however, be divided on the same monthly basis as the Estate expenditure

PART II

PRODUCING COMPANIES

WHEN an Estate reaches the point at which a certain number of its trees become tappable, it is necessary to make very substantial changes in the treatment of figures representing its expenditure, and to introduce further records in connection with the ordinary Estate work, in addition to those previously operative during the purely development stage

General Principles.

From this period of time, the interest and attention of proprietors—whether as individuals or as shareholders in a limited Company—is to a large extent concentrated on that portion of the property which, after so many years of waiting, is at last capable of earning revenue. There is an immediate desire to analyse and to reduce to a minimum the “costs of production,” and in consequence there is perhaps a tendency to overlook the expenditure on areas which have not yet reached maturity.

In consequence, it appears to us more than ever necessary that a strict account be kept of the incidence of expenditure, and that steps be taken to correct a somewhat natural tendency to charge “Development” with more than its fair share of expenditure.

With this end in view, it is believed that if a system of Returns is introduced in which the forms lend

themselves easily to expansion, without involving any radical change in the methods of framing the Returns and Accounts—a system which continues to show figures on lines which enable the results to be readily compared with those of previous Returns—the result cannot fail to be satisfactory and beneficial to all parties

We quite understand that frequent changes in the form of Return required by his Agents or Directors must be vexatious and troublesome to an Estate Manager, just as an entire change in a system now in operation would, at first, be vexatious and troublesome. If the system previously advocated, however, has been introduced during the "development" stage, we think it will be found that no radical changes are necessary in the form of Returns required for Head Office, and the mere addition of further pages to the Returns in use, combined with a suitable adjustment of the basis on which "General Charges" are divided, and the introduction to the Estate and Agents' Office of the necessary additional Books of Record and of the periodical Returns affecting Tapping (which are required in any case), will provide reliable and satisfactory results

The system referred to can still be introduced at any period of a Company's existence, and can be substituted for those previously operative with comparatively little difficulty, provided the Agents and Estate Manager, respectively, have thoroughly satisfied themselves of its methods and effect, and understand the working of the Forms used by them

It may be taken for granted that no Estate of any size enters the stage of full production in one single financial year, and therefore Expenditure, when the initial tapping operations are introduced, falls under four main headings —

Expenditure at
Initial Tapping
Stage

(1) *General Capital Expenditure*

Expenditure in connection with Buildings, Machinery, and other permanent works—subject for the most part to varying rates of depreciation

(2) *Development Expenditure*

- (a) Expenditure in connection with the preparation and planting up of further areas
- (b) Expenditure in connection with the Upkeep and Maintenance of planted areas which have not yet reached maturity

(3) *Revenue Expenditure*

Expenditure upon Mature Areas —

- (a) Expenditure in connection with the Upkeep and General Maintenance of these areas
- (b) Expenditure in connection with the production of the Crop, including Manufacture and Despatch, and expenses incidental thereto

(4) *General Charges*

Such expenses as would be incurred whether the Estate were in bearing or not

The treatment of expenditure falling under headings Nos (1), (2), and (4) has already been

Expenditure—
how dealt with.

dealt with in the first part of this treatise, and the only additions connected therewith, which would appear to be necessary in the Monthly Return, are those under heading (1) "General Capital Expenditure" of items such as the following —

No 20—Rubber Factory and Store (generally comprised in one building)

No 21—Smoke Shed (if it is desired to produce Smoked Rubber)

No 22—Machinery

General Charges

We suggest that a minor change in the form of an addition to the sheet recording "General Charges" be made as follows —

ALLIOTMENT OF GENERAL CHARGES

		Month's Expenditure		Year's Estimates	
		Percentage	Amount	Percentage	Amount
New Clearings	Acres				
Immature Rubber	Acres				
Mature Area	Acres				
Total Planted Area	Acres	100		100	

Revenue Expenditure

Minor changes only are required in the "Acreage Statement" and "Abstract of Expenditure". We submit a specimen Form of Return (Form A) in connection with the records affecting heading No 3, with sub-headings which might be taken as examples of ordinary current expenditure

Form "A" (continued) —

Revenue Expenditure	Total Days worked by Labour Force	Months Cash Expenditure	Journal Entries	Total Month	Cost per lb for Month cents	Brought forward Month	Total to Date	Cost per lb to Date cents	Estimates for Year
<i>Duty Shipping Charges and Sale Expenses —</i>									
81 Export Duty									
82 Freight and Shipping Charges to London									
83 Marine Insurance									
84 Fire Insurance									
85 Cables advising Crop									
86 Landing and Warehouse Charges (at port of destination)									
87 Sale Expenses									
88 Brokerage									
89 Commission									
90 Petties									
91									
92									
<i>Factory and Rubber Store —</i>									
92A Salary of European Engineer									
93 Wages of Engine Drivers, Firemen and Store Clerks									
94 Fuel									
95 Cleaning Factory									
96 Upkeep, Repairs, and Renewals									
97 Store Watchmen									
98									
<i>Machinery —</i>									
99 Upkeep, Repairs, and Renewals									
100 Boiler Inspection Fee									
101									
102									
103									
<i>General Charges proportion</i>									

NOTES — *Items applicable to Companies selling crop in the East

A special heading (No 79) is given to this item which, though only costing ½r is apt to be overlooked. The failure to take out a licence to treat rubber in the F. M. S. renders a Company liable to heavy penalties

The actual records of direct expenditure incurred under the sub-headings shown on Form " A " do not present any difficulty, but the introduction of this important new branch of expenditure immediately raises two vital questions, which are, to a certain extent, inseparable, and regarding which there appear to be almost as many shades of opinion as there are " groups " of Estates

These two questions are —

- (i) The basis upon which " Cost of Production " Calculation of Cost of Production and General Charges is calculated, and
- (ii) The basis upon which " General Charges " are divided

In our opening paragraphs we voiced the opinion that " standard " Forms for the recording of Expenditure on a Rubber Estate were undesirable. To that opinion we still adhere, and we would as definitely state the opinion that the time has come when a standard basis should be adopted for the calculation of the Costs of Production of Rubber. A standard Standard Unit. unit has, of course, been adopted, being that of weight expressed in lbs, and where in this treatise we mention " Cost of Production " it is understood that " cost of production per lb " is referred to.

We are given to understand that a standard basis for the calculation of costs in the South African mines has been settled by mutual agreement, and it is hoped that some similar agreement may eventually be made between the Directors of the large Rubber Companies, which could not fail to be beneficial to the general community interested in the rubber-planting and producing industry.

We have seen the opinion expressed that too much detail regarding costs is already supplied, and that the publication of figures in this connection is neither advisable nor desirable. This is a matter for individual decision doubtless, but it cannot be denied that in any large group of Estates the adoption of a standard system for the preparation and collection of results—whether for ultimate publication or not—must be both instructive and valuable.

The factors which must be taken into account in arriving at a standard basis are numerous and varied, but under present conditions no useful or reliable comparison of the results shown by Estates conducted under different managements can be made, owing to the absence of any standard basis of calculation.

Formula for
calculating
Cost of Production

We have frequently been asked if no simple formula of the nature of an algebraical equation can be put forward as a method of calculating Cost of Production per lb for the purposes of comparison between various Estates. Provided all Estate Managers were trained to use similar Forms to record their expenditure, this could doubtless be done, since expenditure on producing areas is as follows —

$$\frac{\text{Direct Charges} + \text{Proportion of General Charges}}{\text{No. of lbs produced}} = \text{Net cost of production per lb}$$

but until the items which go to make up the Cost of Production are limited and defined, any comparison made between Estates is bound to be unreliable and misleading. The results arrived at by means of the forms submitted by us cannot be taken as a basis for comparison with those of many other Estates.

using different Forms, owing to the fact that certain Estates include in "General Charges" items which other Estates state as "Direct Expenditure," or allocate certain items of General Charges upon one basis, and the remainder upon another, with the result that Costs per lb are directly and materially affected

Properly speaking, the bases upon which Costs of Production are calculated may be divided into three main heads, while the bases upon which General Charges are calculated may be divided into four heads. A combination of these bases naturally gives materially different results, and while some Companies are doubtless carrying on production in a false atmosphere of security owing to the fact that apparent costs do not actually bear out financial results, others may be unfairly charging their present Shareholders' Revenue with expenditure which should be met from their Capital Subscriptions

Bases on which
Cost of Production and General
Charges may be
calculated

Costs of Production may be based upon the following —

- (a) Acreage
- (b) Census of Trees
- (c) Dates of Planting

General Charges may be based as follows —

- (a) Acreage
- (b) Census of Trees
- (c) Wages
- (d) Total Expenditure

Costs of Production Bases — The three headings Cost of Production Bases (a), (b), (c), are so closely connected that a reference

to one necessarily involves the others, and, in our opinion, all three are inseparable, and need to be taken into account in arriving at a reliable basis

As matters stand at present, however, they are dealt with in so many different respects that criticism appears to be justified under each separate heading

Acreage—In framing Costs on the acreage basis the decision as to the area which appears to be actually tappable is left entirely to the discretion of the Estate Manager, and so long as the results per acre and per lb on tapping areas show a reasonable apparent profit, no analysis of the statement that "the tapping area is acres" is made. Under this system records of abnormally small and large yields per acre may be expected from different Estates, and the general result is unsatisfactory in the extreme

We have already stated that no Estate of any size enters the stage of full production in one single financial year, and it is equally true that no single acre may be considered to bring 100 per cent of its trees into actual bearing in one single financial year, if indeed it ever does (which we doubt). When, therefore, 150 trees are being tapped, it may be taken as a settled fact that the area traversed in tapping operations comprises considerably more than one acre (presuming that the trees are planted 17' \times 17', which gives 150 trees per acre) and may possibly extend to five or six acres. It may be taken as an equally settled fact, however, that when 15,000 trees are being tapped, the area is *not* between 500 and

600 acres It is therefore necessary that the Manager should adopt, from the very commencement of tapping operations, a basis of calculation which will carry him through until the whole of his Estate may be said to be in full tapping

Census of Trees—Under this system the total ^{Census of Trees} number of trees on the Estate is ascertained, and weeding and other direct expenses of maintenance are divided between mature and immature areas in the proportion which the number of trees actually being tapped bears to those actually planted on the Estate This system is most fallacious, as it can be readily understood that no Estate can expect to bring each tree planted to maturity, and that every acre is liable to and actually suffers losses by wind, disease, pests, or other causes of failure

Even assuming that all vacancies caused by such failures are promptly supplied, and that the actual number of planted trees is kept unchanged from the commencement of planting operations, there is bound to be, at any given date, a proportion of supplies which have not reached maturity, and the effect of the calculation of costs on this basis would result in a perpetual addition to Capital Account, which is not justified

Dates of Planting—Under this system a Manager ^{Dates of Planting} has no discretion in the settlement of the areas to be charged against Revenue He is instructed by Head Office that the area planted in the year 191 must, during the current year, be taken as in full production, and that all direct charges incurred on this area must be debited to his Revenue Expenditure

If wisely used, this provision appears to us sound, but the important point, of course, is the period which has been fixed for the Manager as being that necessary to bring the area to a tappable age. This requires expert advice in settlement, owing to the variation in soil, rainfall, and other conditions experienced in different districts. Fortunately, expert advice is now available from highly qualified planting experts, who have taken up the profession of "Visiting Agents" to the majority of Estates.

The whole question, in our opinion, finally resolves itself into that of —

Actual and Effective Areas

Actual and
Effective Areas

From our experience in Accounts, and results submitted by various Estates in the Straits Settlements and Federated Malay States, we feel justified in stating that 25 per cent. is a fair *average* deduction from the actual number of trees *planted* on a given area (and fully supplied during the development stage), to show those which are tappable at any given time after the area concerned may be said to be fully "mature". We therefore suggest that a careful census be kept of the trees actually tapped, and that the following method be adopted in order to arrive at the area to be charged in the Accounts as due to bear its proportionate share of weeding, upkeep, and general charges —

Census of Trees
Tapped to be
kept

If the records of planting have been properly kept, there will be in existence a census showing the total number of trees planted on the Estate from time to time. During recent years, opinions as to

distances of planting have changed materially and frequently, but on few Estates of any size are *all* trees planted the same relative distance apart. There should also be a record of total area planted. Then — Actual Area

$$\frac{\text{Total Trees planted}}{\text{Total Acres planted}} = \text{Average number of trees per acre (taking the estate as a whole)}$$

If our statement regarding the number of trees which, in any given area, arrive or remain at the tappable stage simultaneously is accepted, then — Effective Area

$$\frac{\text{Total Trees planted} - 25\% \text{ thereof}}{\text{Total Acres planted}} = \text{Effective number of trees per acre at any given time}$$

The actual number of trees being tapped at any given time should be readily ascertained—and, indeed, the records in this respect should be rigidly checked—and thereupon —

$$\frac{\text{Actual Trees being tapped}}{\text{Effective number of Trees per acre}}$$

may be taken as a safe estimate of the actual producing area which should bear its proportion of expenditure on weeding and upkeep, and of General Charges, to which we shall again refer

As already stated, we have found 25 per cent to represent a fair average deduction from the original planting census to arrive at the effective tapping census on a given area, but we do not suggest that this figure be adopted, without further inquiry, in all cases. The tendency of planting policy in respect of the distances of planting appears to be each year towards increased spacing between the trees, and with such increased spacing the probability of failures is greatly decreased. This is emphasised by the fact that an

appreciable amount of the extended spacing is arrived at by "selection" in respect of the thinning out of backward and defective growth which originally formed the basis of calculation of the percentage, and thus justifies the argument of decreased allowance. Further, soil, climate, and cultivation are important factors in settling the basis of deduction. Care, however, must be taken in the alteration of any basis once adopted affecting these calculations, as the results are directly and intimately connected with the dividend earning capacity of a property.

In any case where doubt is expressed as to the percentage of failures we suggest that the combined advice of Manager and Visiting Agent be called for, and that those two officials be requested to select a given number of acres of average growth, and said to be of tappable age, to obtain an exact census of the total trees originally planted in such area, and of the number actually tappable, and thereon to certify as to the deduction to be made.

We then have the following equations —

T — Total No of Trees planted	}	All these figures being definitely ascertainable
A — Acres		
P — " Trees producing rubber (or being tapped)		
D — Deduction per cent from original planting census in respect of failures or backward growth	}	Either adopted in accordance with our suggestion, or by actual consultation between Manager and Visiting Agent To be ascertained for the purpose of allocating the proper proportions of "direct" and "indirect" expenditure (General Charges)
E ¹ — Effective No of Trees per acre		
E ² — " " Acres		

$$\left(\frac{(100 - D)}{100} \times T \right) - A - E^1$$

$$\frac{P}{E^1} = E^2$$

The figures which must be kept by the Manager, ^{Statistics to be kept by Manager} and which must be *kept written up to date and verified* from time to time, are —

- (1) Dates of Planting of the various Fields If Records applicable to Fields planted by the Vendors before the Estate was purchased are not available, these Fields may be classed as "Planted prior to 19 "
- (2) Areas of each Field on the Estate, planted or unplanted
- (3) Actual number of Trees planted on each Field, or actual number thereof at the date when the first census was taken
- (4) Number of losses in each Field, whether by wind, disease, or any other cause
- (5) Number of vacancies supplied in each Field, and date of supply

Having, then, arrived at a basis upon which the tapping area is to be calculated, the preparation of records affecting the work should be quite simple
 (The Manager should demarcate on his Estate Plan an area representing the exact number of acres which are chargeable as productive, and all actual direct expenditure on these Fields should be charged under "Revenue" headings Care must be taken that, once fixed, the figure denoted "Tapping Area" is not allowed to decrease On low-lying lands, unfortunately, wind storms from time to time devastate substantial areas of productive trees Such areas must not be allowed to be retransferred to "development" but their supplying and subsequent recultivation to the bearing point must be

^{Estate Plan to show Productive Area}

borne by the remaining tapping areas. If abandoned, a proper allowance must be made by Head Office in respect of the loss sustained, which must not be overlooked by the Home Auditors, as the money previously spent on development of such areas is no longer represented by any asset. There is a natural tendency when areas which have been overtapped are being "rested," to exclude those from the productive area for the time being, until active tapping operations are renewed. This should not be allowed, and the rule of "once in tapping, always in tapping" must be rigidly adhered to.

Checking of
Effective Area

Further, when by experience it is ascertained at what average age on the various estates trees come into bearing (this differs materially in various districts and on different classes of soil), the "effective area" must be carefully compared with the records of dates of planting, and if effective area proves to be less than the area which, on paper, *ought* to be tapping, inquiry should be made as to the reasons. Backward growth, or inattention during the early years of cultivation, are generally the reasons adduced for such differences, but the Home Officials must make the Manager understand that capitalisation per acre cannot be increased indefinitely, and it may from time to time be necessary to bring into "tapping area" for the purposes of division of expenditure—that is, on paper—fields which on actual examination prove to be well below average tappable growth, and are in fact actually untappable. It is in such cases that the discretion of the Manager is not sufficient of itself to settle questions of policy, and the Visiting Agent,

with full facts placed before him, is the proper person to decide the matter. His final decision, after inquiry, may easily be that these areas will never be tappable, owing to impossibility of drainage or unsuitability of soil and that they should be abandoned, in which case the census register should be readjusted, and the figures E^1 and E^2 will, of course, require to be recalculated.

Costs — It must be pointed out that costs of pro-^{Costs of Pro-}duction, as shown in the Monthly Returns, whether F O B at the port of despatch, or C I F at the port of destination, must be slightly misleading from month to month, owing to the fact that the rubber after treatment takes from two to three weeks to dry, and therefore cannot be wholly shipped during its production month. It is, of course, possible to provide an estimated figure in respect of cost of shipment of the balance of crop in store, but the adjusting entries attendant on this course in the following month's Accounts are vexatious, while the results secured by the inserting of such estimated figures are not of very great relative value. The figures of Costs^{Items of Cost} of Production shown in the Returns for any single month, therefore, will represent the actual cost of rubber produced and manufactured during that month, plus the cost of packing, shipping, and despatching dry rubber taken from store during the same month, of which at least a part was produced during the previous month. For this reason "cost for financial year to date" is a much more reliable figure for comparative purposes than "cost for month," for the shipping and despatching charges

costs of Cost

will average over a series of months, while for any single month they may fluctuate considerably, and upset comparative calculations. It is advisable at the end of each financial year to hold over the completion of the last month's Return till the last shipment referring to that year has been despatched, and Journal entries relative to the duty, shipping, and despatching charges of the final shipments require to be made in the local books, so that the Accounts of each financial year may bear the correct charges of its rubber production.

In making any comparison of the costs of various Estates care must be taken to ascertain exactly what items are included in each Statement. Some Estates pay locally the shipping charges, insurance, freight, &c, on their consignments, and include such in their Monthly Returns, while other Estates leave the disbursement of certain of these charges to their Head Offices, and so exclude them from their apparent costs.

Selling Charges

Selling Charges --In the case of Companies registered otherwise than in the Straits and F.M.S., expenses connected with the actual sale of rubber are generally undertaken by the home brokers, and in such cases it is seldom advisable, or indeed practicable, to include in the Estate Returns any figures applicable to Sale Expenses. The sub-headings of expense, however, are included in the Forms submitted, as these may be useful to Companies registered in the East, whether the crop is sold by local auction or otherwise.

Depreciation --The question of depreciation is one Depreciation which falls to be dealt with at Head Office, but a few remarks on this subject may be appreciated. The nature of the construction of the great majority of the buildings erected on the estates of Rubber Companies in the East renders the necessity for substantial depreciation an urgent one, and we think it advisable to draw attention to the fact that when the revenue-earning point is reached, depreciation should be made retrospective, in so far as buildings constructed of wood are concerned. In our opinion 12½ per cent per annum calculated on original cost (thus giving an effective life of eight years) is little enough to provide for the depreciation of a building in whose construction wood bears a large proportion, in the climatic conditions of the East, and it may be taken as a rule that 12½ per cent per annum calculated on diminishing value is insufficient. Furniture on Estates will be moderately depreciated at 20 per cent per annum. Machinery, owing to its special liability to replacement in this industry, should be well able to afford 20 per cent, while temporary buildings of the nature of cattle sheds, temporary coolie lines, stables, &c, should be written off entirely in two years.

*

Estate Records - Rubber Daily Return Book (suggested size, demy folio, 16" x 22", 100 pp) Form Estate Records
 " B " gives the draft ruling of this book

Form "B."

Left Sheet]

RUBBER DAILY

Date	No of Tappers	No of Trees Tapped	Gallons of Dilute Latex	Weight of Wet Rubber				Estimated Weight of Dry Rubber (@ % Loss	lbs Dry Rubber per Tapper	Total Wages per Pay Roll	Cost of Collection per lb
				Sheet	Crepe		Scrap				
				No of Sheets	lbs	No of Strips	lbs	No of Strips	lbs		

RETURN BOOK

[Right Sheet

Rubber Packed for Shipment										Days Tapping this Financial Year	Rainfall	
Sheet					Crape and Scrap						Remarks	Ins
No of Sheets	No of Packages	No 1 lbs	No 2 lbs	No 3 lbs	No of Strips	No of Packages	No 1 lbs	No 2 lbs	No 3 lbs			

The headings are self-explanatory, but the following comments may be of assistance, viz —

The object of ascertaining wet weight and dry weight is so that approximately correct estimates of monthly outputs and of stocks on hand may be made up, with the least possible delay. The percentage of loss in weight on drying must be ascertained by careful actual results, taken from time to time by the Manager or Assistant in charge of the factory, and should be altered from month to month, as occasion requires, and as necessitated by actual results. It will be found that different Estates show different percentages of loss in weight, owing to the varying proportions of old and young trees being tapped, while further differences in percentages will be observed between wet and dry weights in sheet, crepe, and scrap rubber. The striking of an average, however, is not difficult.

The Manager should endeavour to keep each month's output entirely separate in Store—that is to say, to leave a space in his drying-room between the racks holding the rubber manufactured during the last few days of one month, and that manufactured in the next month—until a final approximate result has been secured by careful experiment. After this his shipment results will act as a check on estimated figures.

It is essential that "wet weight" be taken at the same period of time daily. Some estates weigh immediately after machining or rolling, while others weigh the following morning. This, however, is a

matter for each individual Manager to decide. The recording of the number of sheets and strips manufactured will, in due course, effect a check on the number shipped—the balance being, of course, in store.

Cost of Collection

The cost of collection per lb (i.e. tapping and collecting wages only) is a useful figure for the purposes of comparison between different Estates, but it must be remembered that while on certain Estates tappers have to clean the latex cups on their "task," to collect the scrap and earth rubber, and to pick over the scrap rubber and sort it into various grades, these operations are on other Estates done by separate coolies, drawing additional wage. Before comparing "cost of collection" on different Estates, therefore, inquiry should be made as to the exact task which a tapping coolie performs, and how many of the foregoing operations it includes.

Average Daily Wage

Average Daily Wage — We think it necessary to draw attention to the system under which labour recorded in the "Daily Report" is, on many Estates, split up on the basis of "Average Daily Wage."

Under this system, records are only kept of the number of men employed in each class of work during the month, and at the close of the month, therefore, the total Pay Roll, divided by the number of days' work recorded, gives the average daily earnings of each coolie on the Estate.

The Manager then proceeds to allocate his Wages Bill on this basis.

It appears to us that the system is entirely wrong ^{Average Daily Wage} in principle, for it will be readily understood that by this convenient and easy method of wage allocation the clean weeded fields on the Estate are burdened with a proportion of the costs of the less satisfactory fields, and the costs of the producing portions (which, being more heavily shaded than the younger planted area, are generally less affected by weeds or lallang) are thus charged with weeding expenditure which is not incurred upon them. This applies to every branch of the expenditure covered by the Check Roll, and each if taken by itself, therefore, is misleading, though the gross total is correct. The only argument which has been adduced to the writers in favour of this system is that what may be lost on one branch is made up on the others, but we submit that this does not necessarily follow, and most strongly urge that the system be discontinued, and that the Daily Report be framed on actual expenditure, and be made the basis of allocation, instead of the average daily wage. We can well understand the convenience of calculation by means of Average Daily Wage, but fail to see that it can be in any way favourably or fairly contrasted with that of direct expenditure. It certainly does *not* show actual cost, for in no circumstances can we imagine an Estate which pays the same daily wage to all classes of labour—men, women and children, watchmen, tindals, gardeners, &c. The Average Daily Wage is valuable to a Visiting Agent, showing whether a Manager is running his *total* wage expenditure economically or not, but it is no criterion of individual costs.

This practice is one which exists locally, on the Estates alone, and will not as a rule come under the notice of Home Officials or Auditors without specific inquiry

Rubber Ship
ments

Rubber Shipments—Forms "C" and "C¹" show suggested Form of Advice Note for use by the Manager in despatching rubber to his local Agents, either for local sale or for consignment to Head Office

Form "C"

RUBBER DESPATCHED

ADVICE NOTE

No

To the Agents

Rubber Company Ltd

CONSIGNMENT No 117

DEAR SIRs,—

I beg to advise having despatched to you on 4th instant the packages of rubber shown on the Statement appearing below, for consignment to London

Full details of weights are sent herewith on "Shipping Particulars" form

	Packages	Total Weights	
		Net	Tare
<i>Sheet</i>			
No 1	9	1,189	172
" 2	—	—	—
" 3	—	—	—
<i>Crepe</i>			
No 1	—	—	—
" 2	10	1,277	227
" 3	—	—	—
	19	2,466	397

Yours faithfully,

Manager

Estate

191

Advice Notes

The book containing these Advice Notes may be printed in duplicate, one copy being perforated and used with carbon paper, so that a record may be kept, on the Estate, of the particulars forwarded. A convenient size of Advice Note is 10" × 8". A "Shipment Particulars" sheet requires to be attached to the Advice Note showing the detailed weights of each case contained in the consignment. Four copies of this sheet should be prepared for each consignment, to be dealt with as follows —

‘ Shipment
Particulars
Sheet

Retained on the Estate for reference	1 copy
Sent to Agents for their reference	
Head Office	2 copies
	<hr/>
	4 copies

Head Office retain one copy and send one copy to their Selling Brokers, who insert and advise "Landed Weights."

It is suggested that on these "Shipment Particulars" Sheets a careful note be made of the completion of each month's crop. In this way any discrepancy between estimated and actual dry weights may be ascertained with the utmost despatch and the minimum of labour. Form "C (a)," (size 13" × 8½") shows how this may be done.

Form "C (a) "

SHIPMENT PARTICULARS

RUBBER COMPANY LIMITED

Consignment No 117, ex ss

Mark	Case No	Shipped Weights			Tare and Weights			Remarks
		lbs Gross	lbs Tare	lbs Net	lbs Gross	lbs Tare	lbs Net	
117	589							No 1 She
	590	151						See Note
	591	15						
	592	153	19					
	593	150	19					
	594	150	18					
	595	150	19					
	596	152						
	597	152						
		159		159				
	97	159		156				
	98	156		154				
		157		155				
		161						
		158		156				
		154		151				
		157	2-	155				
		165	3	162				
		127	-	124				
		110	-	8				
		2865	30	2866				

Note - Case No 590 complete May crop containing 126lbs May and 6lbs June output

It is suggested that consignments be numbered consecutively from the beginning of each financial year

A distinctive "mark" should be adopted by each Estate for its rubber, and when it has established its name and quality and can forward a standard grade of rubber to the market, its consignments can more readily be disposed of

Local Agents
Rubber Ship
ments Book

We submit specimen forms of books for use in the Office of the Local Agents, in connection with Rubber Shipments. The size of book recommended is 9" x 11" (double folio), 100 pp.

Form " D " is intended for use in respect of Companies registered locally, in which the proceeds of sale are shown, while Form " D 1 " is suitable for Companies having their Head Office in the West, as no figures relative to Sales by such Companies appear in the local Accounts

The necessity for distinguishing between dates of despatch from the Estate, as recorded in the Manager's Advice Note, and those of despatch from Shipping Port, arises from the delays attendant on transport from the Estate by rail or road, and on detention for Customs examination and payment of duty.

From the particulars recorded in the Rubber Shipments Book kept in the Agent's Office, the details necessary for the completion of the Rubber Crop Account in the Monthly Return are obtained without any trouble.

In connection with the Sale of Produce from Estates whose registered office is in the East we draw attention to Form "E," which contains particulars and draft example of Account Sales as these may appear in the Monthly Return.

Form "E"—

DETAILS OF ACCOUNT SALES received during the month of

191

Date of Sale	Name of Agents and Details of Expenses	Nos of Cases	Weights	Price per lb Realised	Sterling Values	Rate of Lxchange	Values in Currency	No of Cases	Shipment No	Remarks
191 Mar 17	D & Co London <i>Charges</i> Brokerage Fire Insurance Petries Commission	138/68	lbs oz 4 140 0 2 10 5 0 5 3 0 6 6 5 0 11	s d 2 5 1	£ s d 504 11 3	2/4	\$ cts 4 324 82	31	4	Part Charge to Estate Ex penditure No 87 = \$21 61 " 84 = 2 25 " 89 = 2 79 " 88 = 43 25 \$69 90
19	D & Co, London <i>Charges</i> Arbitration Fee Brokerage Fire Insurance Petries Commission	121/37	2 266 0 £0 7 0 1 8 7 0 3 0 0 3 6 2 17 1	2 6 1	£285 12 3 £496 8 2	2/4	2448 11 \$4,254 92	17	4	Balance Charge to Estate Ex penditure No 89 = \$3 00 " 87 = 12 25 " 84 = 1 29 " 89 = 1 50 " 88 = 34 46 \$52 50

Daily Rubber Summary —It is presumed that the ^{Daily Rubber Summary} local Agents correspond with Head Office regularly each week, and in order that the Directors and Home Officials may be kept in touch with the progress of rubber production of their Estates we suggest that a Daily Rubber Summary somewhat after the form submitted be forwarded to them each week. All particulars contained in this Form "F" (size 14"×11½") are readily extracted from the "Rubber Daily Return" Book, so that its preparation is not laborious.

Form "F"

Left Sheet]

DAILY RUBBER SUMMARY for the

Date	No of Tappers	Total Trees Tapped	Gallons of Dilute Latex	Total Sheets made	Weights of Wet Rubber				Estimated Total Dry Weight @ % Loss
					Sheet		Crepe and Scrap		
					No 1	No 2	No 1	No 3	
Sunday 12th									
Monday 13th									
Tuesday 14th									
Wednes 15th									
Thursday 16th									
Friday 17th									
Saturday 18th									
Total for Week									
Previously this Financial Year*									
Total to date*									

N B—This Return to be despatched to the Agents regularly each Monday, in duplicate. The Agents will complete items marked with *
 All weights of wet rubber to nearest lb only—other weights to be shown as decimals. Wet rubber to be weighed the same afternoon
 Cost of collection comprises tappers wages only, unless otherwise stated. Short days to be stated with reasons

MANAGER'S

Note—If any tapper fined, the amount of fines must not be deducted from the wages appearing on this Return but must appear

[*Note*—It will be noted that the above Form is drafted to meet the requirements of an Estate producing only Sheet, the Scrap on the Estate from which the example is drawn being actually treated by a neighbouring Estate possessing the necessary machinery. Scrap in this instance is divided into three classes—(a) bark scrap, (b) ball scrap and lump, and (c) earth rubber. The necessary additions and alterations to this Form for Estates producing other classes of rubber do not present any difficulty.]

Two copies of this Form should be sent to the Agents, who forward one copy to Head Office and retain one for reference.

It is advisable, of course, that this Summary be made up to the same day each week—and not from the first of each month, but the carrying forward of previous figures up to the close of each month, when—if necessary, where a month did not close on a Saturday—totals would be ruled off, interlined, and shown in red ink, adds to the value of the Return.

**Costs of Pro-
duction**

Costs of Production—An important principle which should be emphasised in instructions issued by the Directors of Rubber Companies to their Managers and officials responsible for the framing of the Accounts and Returns is that all “direct” expenditure on tapping areas is entitled to a separate heading in their “Revenue” expenditure Form, and, if necessary, should be deleted from “General Charges,” when the productive stage arrives, and be reinserted in the “Revenue Expenditure” sheet.

For example, “Watchmen and Estate Cooks” may be an eminently suitable sub-heading in the “General Charges” sheet during the development stage of a Company’s existence, but when rubber is being produced, and a watchman is necessary to

provide against theft from the rubber store, it is at once necessary to open a special heading in the "Revenue" sheet for "Store Watchman". Again, tindals who superintend the tapping gangs should be given a heading under "Revenue" expenditure, while the salaries of European Engineer, and, if necessary, of European assistants whose work is entirely confined to supervision of tapping areas, must form and be shown as direct charges.

It is not possible to run an Estate on the lines of an engineering works, and time sheets are not obtained from the assistants or Manager showing how the working hours of each day are occupied. If an assistant is made responsible for any other work in addition to the supervision of tapping operations, his salary and allowances therefore form a proper charge against "General Charges," to be allocated as hereinafter shown.

A point which arises out of the foregoing para-^{Fields}graph, which we desire to make clear to the Directors and Home Officials of Companies, is that the division and boundaries of "Fields" on a Rubber Estate are not in the majority of cases visible. They certainly are not shown by fences or walls, but are merely imaginary lines (corner stones being in some Estates placed to define the fields) so that the calculation of tasks, the allocation of costs in stated fields, and the division of the Estate for tapping and other purposes, must be left to the Manager, and past a certain point it is not practicable to carry calculations in respect of the work of coolies on given fields.

A weeding gang may conceivably work over portions of ten fields in a few hours, but it would not be practicable to split up the absolute figure of cost for each field on the basis of the exact time spent in each on that day

Charts—The system of recording upon Charts results in connection with the operations carried on in the rubber plantation industry is one which is worthy of encouragement. It is one which, unfortunately, is not at the present time extensively used, though the records may be made both instructive and valuable, and, moreover, are capable of being applied to a very large number of the operations. For example, charts may be introduced to demonstrate fluctuations in the weeding costs of different sections of an Estate, and also for recording yields per tree or per tapper on specified areas, and in this manner a spirit of healthy rivalry may be stimulated between assistants in charge of similar operations on their respective sections

In studying any chart which records results involving figures which represent more than one single operation, however, care must be taken to ascertain exactly what value is secured for the cost indicated, and what operations are actually included

As an example, in the following Charts "Cost of Production" represents cost "c and f" London—that is to say, inclusive of duty, shipping charges, and the proportionate share of General Charges, but exclusive of insurance, which is paid there, and not intimated to the East

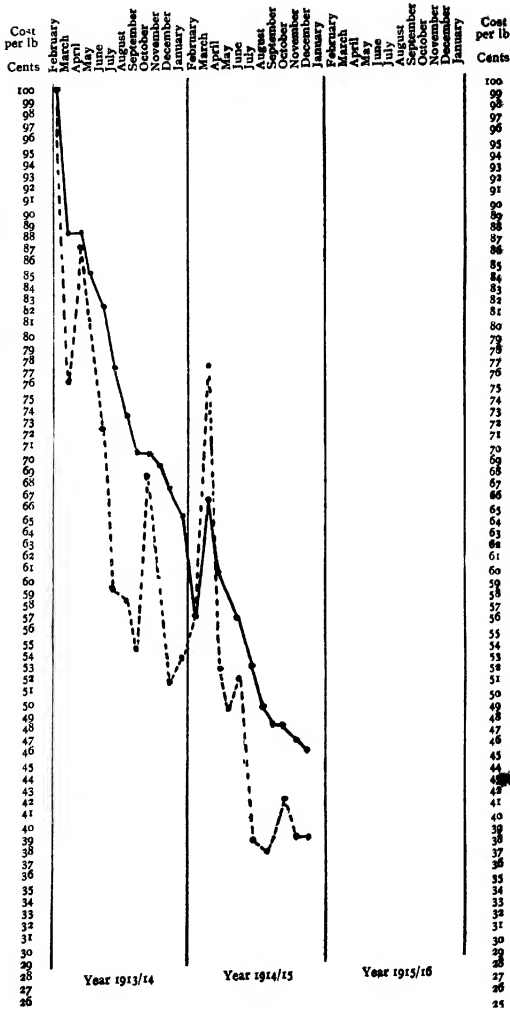
RUBBER COMPANIES' FIN

COST CHART

Cost of Production for Financial Year to date

Cost of Production for Month

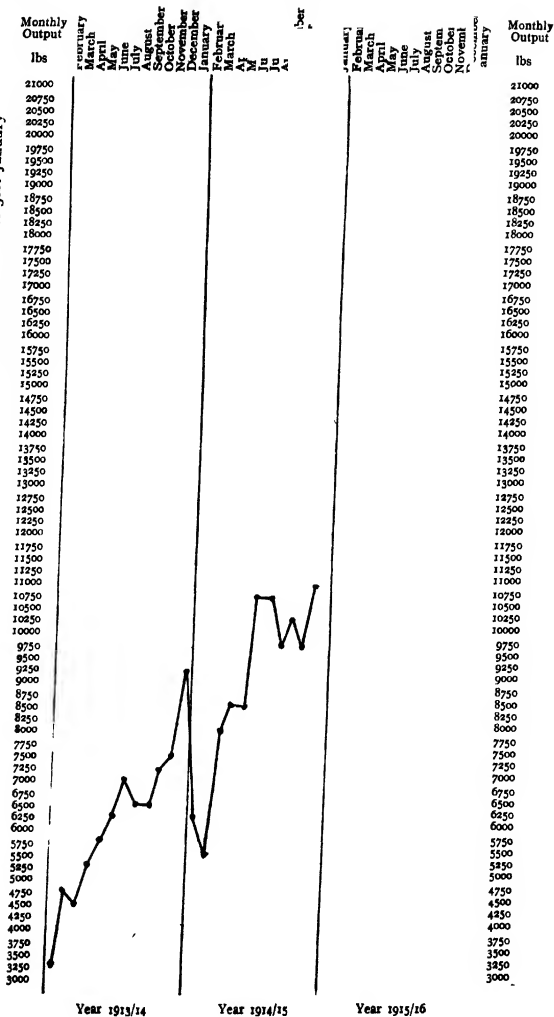
Financial Year closes 31st January



RUBBER COMPANY, LIM

PRODUCTION CHART

Financial Year closes 31st January



In the " Cost of Production " chart it will be noted that " cost of production for month " is subject to more severe fluctuation than " cost of production for financial year to date," and that the cost in the final month of the financial year 1913-14 is unduly high, owing to the inclusion of charges for duty and shipping charges on rubber for that month, only ascertained during the following month, and journalised as liabilities for that month when the shipments were made, on the system already referred to

Similarly the costs of production for the first month of the financial year 1914-15 may be taken as unduly low, through the omission of charges relative to shipment of rubber produced but still in store, at the close of that month's Accounts

The only reliable figure is that representing costs for financial year to date, which, it will be observed, fluctuates less severely and suddenly than the monthly figure

A copy of the " Production Costs " chart might with advantage be kept and written up to date monthly —

- (a) On the Estate ,
- (b) In the local Agents' office ,
- (c) At Head Office

If a similar chart is kept at Head Office representing average price realised for crop during month and to date, the two comparative results will doubtless be valuable, though the necessarily large proportion of " shipments in transit " at any time will doubtless discount to some extent the value of the second suggested chart

**Production
Chart**

A Production Chart is exceedingly useful for the purpose of reviewing progress over a series of months or years, and should be kept in all three places recommended for the former chart. Explanations regarding any fall in production might be inserted in the space representing the month involved, and we suggest that the insertion therein of the number of trees added to the tapping census, from month to month, would also be of considerable value.

We look forward to the time when, in addition to the ordinary Report printed and issued by the Boards of Rubber Companies, Charts somewhat after the style of those submitted will form part of the information circulated to Shareholders. Comparative costs under such conditions would indeed provide an interesting and instructive study.

**Extended use of
Charts**

The following branches of estate expenditure lend themselves readily to the framing of "chart" records —

- (1) Total Monthly Expenditure, divisible into —
 - (a) Gross Expenditure on Capital Account
 - (b) " " Extensions
 - (c) " " Development of Immature Areas
 - (d) " " Producing Areas
- (2) Weeding Expenditure, divisible into —
 - (a) Immature Areas
 - (b) Mature Areas
 - (c) Individual Fields or Sections
- (3) Cost of Collection (pure tapping and collecting wages) —
 - (a) On separate Fields or Sections.
 - (b) Average over whole Estate

The following crop results may also be recorded on charts, if desired —

(4) Returns showing Wet and Dry Rubber secured —

- | | |
|-----------------------|--|
| (a) per Day | } over the whole Estate or on
separate Fields or Sections |
| (b) per Tapper | |
| (c) per Tree | |
| (d) per Acre | |
| (e) of various Grades | |

(5) Percentages of various grades of Rubber —

- | | |
|---------------|---|
| (a) per Day |) These will fluctuate considerably
from climatic causes |
| (b) per Month | |

Doubtless other headings will suggest themselves to the individual Manager, but, as already stated, the two most important on an Estate which is producing rubber are those of which examples are given. The value of a Manager in the near future is, we feel sure, bound to be demonstrated in an inverse ratio to the costs which he can show, and which, on examination, prove to be in accordance with actual results, and the history of the successful and also of the unsuccessful Manager will doubtless be ultimately demonstrated by the charts of his Estate.

Division of General Charges — It will be observed that in considering the calculation of costs of production we have adopted "acreage" as a basis for direct expenditure, and we advocate the adoption of the same basis for the division of General Charges. In view of the four main methods adopted by different groups for the division and allocation of General Charges, to which we have referred, it would perhaps be well to give our reasons for the adoption of this standpoint, which, we are well aware, does not

Division of
General
Charges

commend itself to many of those responsible for the framing of figures connected with the industry General Charges and their treatment, indeed, are likely to be the subject of very considerable controversy, and while we are most unwilling to be considered dogmatic in our views, it is, of course, necessary for the time being to adopt and recommend one definite system

Acreage basis

In the first place, we would record the opinion that the "acreage" basis of division is the fairest one in the largest proportion of controversial cases. It is true that no basis which is absolutely perfect, and which meets every objection, has yet been put forward, and we desire to show by what means we arrive at our conclusions as expressed above.

We desire, however, to state that, in our opinion, if one definite basis—whether that recommended by us or not—is actually made universal, the industry as a whole will benefit, and it appears to us not only desirable but essential that the adoption of a defined basis be made the subject of full discussion, and of definite and immediate combined action by those responsible for the direction of the affairs of the rubber planting and producing industry.

We have heard it definitely stated by individuals connected with the industry, for whose opinions in such matters we have a high respect, that the proper basis of division of general charges consisting of all items other than "direct" expenditure, is that of the coolies' wages. We cannot absolutely agree with this principle, for, though there are certain

items of general charges which might reasonably be so divided, the majority of the charges bear no relation to wages, and more properly fall under a division on the basis of acreage

Items of expenditure shown under the heading of General Charges may be divided into five distinct classes —

- (1) Those directly concerned with the coolie labour force, e.g. Nos 112, 113, 115, 116, 126
- (2) Those directly concerned with the acreage of the Estate — e.g. Nos 110, 111, 127
- (3) Those concerned with the financial management and supervision of the property — e.g. Nos 104-109, 117-119, 121-123
- (4) Those concerned with the upkeep of Estate buildings — e.g. Nos 128-143
- (5) Special expenses — e.g. Nos 114, 120, 124, 125

The argument adduced in favour of the division of expenditure on the basis of *Coolies' Wages* is that allowance is made for the fact that more labour is employed on certain works or areas than on others, and that the proportion of general charges should therefore vary with the amount of labour expended thereon. This argument, however, does not, in our opinion, bear close inspection or dissection. We fail to see in what respect even those items falling under heading (1) of the foregoing subdivisions can be fairly divided in proportion to the number of days' work completed by the labour force in one month, or over a series of months, while those falling under heading No (2) can certainly not be so divided

In regard to these items, and also to such as fall under headings Nos (3) and (4) we consider that the proper and fairest method of allocation is that of acreage under cultivation, split up into its component parts—new clearings, immature area, and producing area. It appears to us that all these expenses must be considered to have been incurred for the benefit of the property as a whole, and not for varying proportions of coolies. After all, the Directors and Secretaries of a Rubber Company look at their investment from the acreage point of view in respect that they have _____ acres planted, of which

_____ acres are still immature and .

_____ acres are productive. Their investment primarily consisted of a rubber property of a specified number of acres and not of a coolie force (though admittedly either is of little value by itself), and it would not interest Shareholders to inform them at their annual meeting that “ the total number of days worked in _____ tapping areas was _____ while those on _____ non-productive areas was _____ ”

A further objection to the division of general charges on the wages basis is that it may at once be upset by the introduction of contract labour, whereby Estate work is performed for a fixed sum per acre or per tree (on tapping areas). Where contract labour is in operation the employer is not as a rule entitled to inquire into the number of coolies engaged on the work from day to day, so long as on the expiry of the specified time the work contracted for is satisfactorily completed, and surely the fact that cultivation contracts are based on an acreage basis

is a fair indication that this is the most equitable all-round basis for all calculations. Contract labour supplies its own supervision, and the Estate only accepts work when completed. It is possible to imagine an Estate on which all cultivation work is carried on by contract, yet a Manager would be necessary, and expense might still be incurred for hospital, travelling expenses, visiting agent, quit rent, repairs to buildings, &c &c. Under such conditions it is difficult to understand what basis would be adopted by the upholders of the "wages" system of allocation of General Charges.

The next system which falls to be considered is ^{Trees basis} that of *trees*. Under this system general charges are allocated in the proportion which total trees being tapped bears to total trees planted on the Estate. This, however, is not sound, as no allowance is made for the inevitable failure of a proportion of the number of trees planted to reach maturity, to which reference has already been made in considering Cost of Production. As pointed out under that heading, no Estate whose expenditure is divided on this basis can ever emerge entirely from the stage of development expenditure, and for this reason the adoption of the system is to be deprecated.

An alternative method of allocating General ^{Proportionate Monthly Expenditure basis} Charges is that of the proportionate total monthly expenditure on areas ascertained to be respectively producing and non-productive, and at first sight this system is rather attractive, but on consideration it will be found that during the period—at least—when development and extension work are being

undertaken by a Company allocation under this system is unfair, and will result in an undue addition to Capital Expenditure. The operations connected with the preparation of land for planting—felling and clearing jungle, lining, holing and planting, eradicating lallang, clearing timber, and weeding such areas during the first few months—comprise the heavier and more costly proportion of expense on new areas taken into cultivation. The majority of these operations—if not indeed the whole of them—is generally done on contract. It must be remembered, however, that, looking on the Estate as a whole, felling operations are in reality no more valuable than the operations of weeding of areas already planted, and it appears to us that management and other overhead charges must be based on acreage to be fairly apportioned.

Up to a point, Contract work is not liable to supervision, except in so far as is required for advancing money to contractors or for settling their final payments. To this point, therefore, it may be said to supply its own supervision, and it appears unfair that such areas on which heavy expense is being incurred should be further burdened with an undue proportion of general charges, calculated on the basis of relative expenditure.

**Special
Expenses**

In the foregoing arguments we have left out of consideration "special expenses" of the nature of—

No 114—Medical Expenses

„ 120—Fire Insurance

„ 124—Transport of Miscellaneous Goods

„ 125—Tools and Stores.

The treatment of such items presents special difficulties, and though, for general purposes, we have included them in the scheme of charges divisible on the lines indicated, we propose to draw special attention to such items —

Medical Expenses — In this instance the arguments regarding allocation on the basis of wages or gross expenditure on specified areas are obviously unfair and unjustifiable Medical Expenses

It cannot be argued that because a large number of coolies happen to be employed on the tapping area in a specified month, that area is to bear an exceptional proportion of the cost of treatment of other coolies, who are naturally “off the strength” for the time being, and whose sickness cannot by any stretch of the imagination be expressed in terms of the value of work performed, subsequent to the date of admission to hospital, by the more fortunate or more healthy members of the labour force. If an Estate Hospital is erected on the property and run by the Company's own staff, surely it is provided for the Estate as a whole, and each cultivated acre should bear its proportion of the standing charge.

To take an extreme case. If during one month the whole tapping force were affected by some epidemic which necessitated their being sent to hospital, surely the fact that tapping was temporarily suspended is no justification for the charge of all medical expenses for that month to Development Account, and tapping costs for the year ought to bear their proportion of such expense.

Fire Insurance *Fire Insurance*—Items of this nature (including interest), as well as all "Upkeep" items, are as a rule directly chargeable against Revenue, but it appears to us that in a proposition of the nature of a rubber plantation, such expenditure is incurred as essentially for the good of the non-producing as of the producing area, and that insurance and upkeep of all buildings not exclusively used for operations connected with tapping and the treatment of rubber collected, are fairly divisible in the proportions shown

Interest It is customary to find, in the published Accounts of producing Companies, the charge of interest on borrowed money debited direct to Profit and Loss Account, and however safe this may be as a matter of finance, we are unable to justify the charge otherwise. The money borrowed is expended on the respective areas in the exact proportions shown by the Monthly Returns, and interest, in our opinion, should properly be included in, and divided with, other items of General Charges as a matter of principle. We cannot see why costs of production should be unduly increased owing to the fact that capitalisation has been under-estimated, while costs of development escape. Apart from the question of policy (which can be equally well settled by a reserve from profits) we maintain that the treatment of interest otherwise than as an item of "general charges" results in an untrue cost per lb being shown, and in an improper basis of comparison between the results of various Estates.

Transport of Miscellaneous Goods — Where possible, ^{Transport of Miscellaneous Goods} transport of goods should be charged to the sub-heading immediately concerned, to which the cost of the goods is debited

Thus, transport on cement for buildings would be charged to the same Account as the cement itself, while freight on tapping tools would be debited to the Tapping Tools sub-heading. In many cases, however, goods of a miscellaneous character are conveyed to the Estate in the same cart, and it is not practicable to split up the cost of transport. Such items of transport, we suggest, should be included under "General Charges" and apportioned therewith.

Tools and Stores — used for field work — On the ^{Tools and Stores} majority of Estates, tools and stores not specifically purchased for tapping purposes are entirely written off and lost sight of, in the month during which they are purchased (or on Estates conducted on the cash basis, when paid for). We think it highly desirable that a proper Stores Account be kept, with the relative detailed headings showing the actual supplies passing through the hands of the Storekeeper. On the smaller Estates the expense attendant on the introduction of a Storekeeper capable of keeping proper records is not justified, but on the large Estates this becomes essential. The heading "Tools and Stores for field work," as included in our scheme of General Charges, is intended to apply only to the smaller Estates, but in dealing with figures of any magnitude, two alternative methods of record and allocation may be adopted —

- (1) To charge to "Tools and Stores" each month one-twelfth of the estimated value of Tools which will be discarded as useless during the financial year

Under this system all purchases would be debited to a separate Ledger heading (not included in "Estate Expenditure") which commenced with an opening balance representing valuation of tools and stores in use on the Estate at the beginning of the financial year. The monthly estimated figure would be credited to this Account and debited to Estate Expenditure, any discrepancy on revaluation at the close of the financial year being written off.

- (2) To charge to "Tools and Stores" Account in General Charges all issues to the field, leaving the valuation of "field equipment" at a fixed figure

Field Equipment — The first costs of supplying the tapping area with the necessary spouts, latex cups, buckets and tapping knives, of equipping the factory with its coagulating dishes, and of making the opening cuts in the trees, are quite fairly chargeable to Capital, though, in our experience, this method of treatment of the figures is unusual. It is quite justifiable, but extreme care must be taken to distinguish between "actual area" and "effective area" in this connection. If the trees on closely-planted areas are thinned out, the value allowed for capital equipment at once undergoes a change, and

must be adjusted. It seems to us quite a fair proposition to allow a fixed price per acre in respect of field equipment, and thereafter to write off further purchases, for it is quite impossible to recount spouts, cups, knives, latex pails, and utensils periodically, and to distinguish between old and new.

Whatever method of dealing with tools, stores, and utensils is adopted, however, care must be taken that the cost of large consignments does not fall on individual months. It is conceivable that a Company may indent on Head Office for its year's supply of cups, &c, which might all arrive together, but could not form a charge against the costs of the month of arrival. We are inclined to favour the adoption of the course mentioned, of writing off monthly one-twelfth of the figure estimated by the Manager, and of adjusting balances at the close of the financial year. With detailed Returns a Manager is less liable to make egregious errors in his estimates than where he has only a few headings under which to frame his estimates, and adjustments required at the end of the year should not be of large proportions.

Immigration Expenses —The treatment of the cost of importing labour from India is one which presents peculiar difficulties. If satisfied with the treatment received, coolies in many cases remain on an Estate indefinitely, in which case the prime cost of their recruiting is not a fair charge to the month in which they arrive. On the other hand, coolies are at liberty to leave at any time, upon giving one month's notice, without the Estate recovering any proportion

Immigration
Expenses

immigration
expenses

of expenses, and therefore the asset is a doubtful one to include in any Balance Sheet

We think it is so doubtful that it should never be so included, but should be written off as and when incurred. There are objections, which must be apparent to everyone, to this course, and as an alternative we suggest the adoption of a similar system to that advocated for "stores and tools" whereby one-twelfth of estimated immigration expenses are written off monthly, and the remaining balance, if any, adjusted at the close of the financial year. It must be remembered that, on the majority of established Estates, immigration expenses are a regularly recurring item of expenditure, for coolies return to their native villages after a few years, merely for a holiday, and on coming back to their Estates often bring a few new coolies with them, whose expenses may be refunded. Estates with a good recruiting connection encourage this practice, as it saves the expense of recruiting agents in India.

Under this heading (Immigration Expenses) are frequently included the Tamil Immigration Assessments payable quarterly in respect of Tamil coolies. This one item is probably the one which could most fairly be divided on the basis of "labour," as distinguished from that of "acreage," since the assessment is calculated on the basis of wages earned by the coolies from month to month. The fact, however, that children's work is not the subject of assessment under existing Tamil Immigration Ordinances, while a considerable amount of light work is done by gangs of Tamil children, throws out calculations somewhat

We have found that a monthly estimate based on the actual assessment of the previous quarter, and, of course, adjusted in relation to exceptional increases or decreases in the coolie force, subsequently meets the case fairly in practice. Under this system, Estate Expenditure is debited monthly, and the Superintendent of Immigrants is credited, with the estimated proportion of the quarterly assessment, and any small difference is adjusted, as and when ascertained.

There should certainly be some adequate allowance made for assessments, so that credit may be given at the close of any financial period for the liability incurred, and that the statement of the financial position as disclosed by the Trial Balance may be as approximately correct as possible.

This raises the important point of

Periodical Payments These are of the nature of Periodical Payments
the following —

- (a) Immigration and other Assessments
- (b) Quit Rent
- (c) Insurance

Item (a) has been dealt with, as being an unascertained and fluctuating figure it presents exceptional difficulties. Items (b) and (c), however, are definitely ascertainable, and we suggest that they be dealt with as follows —

When due (1st January) Quit Rent should be Quit Rent debited to "Unexpired Quit Rent" Account and credited to "Collector of Land Revenue" in total,

while Insurance Premiums (which may always with advantage be fixed for expiry on the last day of the Company's financial year) are debited to "Unexpired Insurance Premiums" Account, and credited to the Insurance Company concerned. The monthly entry affecting Estate Expenditure is then as follows —

<i>Estate Expenditure</i>	<i>Dr</i>	\$ —	
To Unexpired Quit Rent			\$ —
To Unexpired Insurance			—
For monthly proportions of these sums applicable			

When payment is made, the cash entry is posted to the debit of the personal accounts which previously appeared in the Local Trial Balance as creditors.

By this method, each month bears its proper proportion of these periodical payments, and costs for any month are not unduly burdened by the sudden debit of a whole year's quit rent or insurance. The Insurance item, of course, should be split up between the various sub-headings affected (rubber in store and in transit bearing their direct charge). At the close of each month's Accounts the proportion of Unexpired Insurance and Quit Rent appear automatically in the Trial Balance, and thus save considerable trouble in framing Annual Accounts.

Live Stock — It appears necessary to draw the attention of the officials and auditors to items stated under the heading of "live stock" in the local Accounts, and to recommend that a detailed inventory and valuation thereof be obtained at the close of each financial year. We cannot remember noticing in the printed Accounts of any Rubber Company

issued to date (January 1915) items recording depreciation or loss in respect of such specific assets, nor do we know of many Companies who state these assets separately in their Balance Sheets, though a large number of Estates possess live stock, to our knowledge

Head Office Accounts — We have been taken to task somewhat severely for the opinion, expressed in the early portion of this work, that the number of Accounts required to be kept at Head Office is small, and that the proper basis of permanent record in respect of Eastern expenditure is the Monthly Return supplied from the East. We still fail to see the practical utility, however, of opening 143 Ledger Accounts to record the details of the sub-headings contained (for example) in the draft Returns submitted by us, or the advantage gained from the laborious journalising of items already dealt with and allocated in the East. We adhere to the opinion expressed, and feel sure that the information available to the Directors, Auditors, and Officials at Head Office is in no way decreased or modified by the adoption of the system suggested

In our opinion the work performed at Head Office in connection with the Accounts should be limited to entries affecting —

- (1) Expenses there connected with the Management and Direction of the Company's affairs
- (2) Expenses in connection with the sale of the Company's produce
- (3) Entries affecting " Eastern Account," the treatment of which was dealt with in the first part of this treatise

Head Office
accounts

On producing Estates Nos (1) and (2) once again fall under the heading of "direct" and "indirect" expenditure when utilised for purposes of the calculation and comparison of costs, and on scrutinising comparative costs and profits per lb it must be ascertained whether "expenses of sale" are debited as direct expenditure and form part of the "cost per lb" shown, or whether "nett price realised" is taken (i.e. price per lb after deduction of selling charges)

It is most unusual to find secretarial and directors' fees, office expenses and other Head Office standing charges, allocated on the basis of General Charges, and while we can see, and approve of, the financial soundness of charging such expenses direct to Profit and Loss Account, we are not aware of any authority upon which such a charge to Revenue is based. It appears to us that until an Estate is considered to be in full production—that is, until its producing area has to support all the charges of upkeep incurred on the whole Estate—the immature areas should bear their share of Head Office Management expenses.

The actual book treatment at Head Office of the items falling under Heading (1) do not present any difficulty whatsoever, apart from the principle above mentioned. Those in respect of Heading No (2) are equally simple, but it may be advisable to give some information in respect of the practice attendant on sales effected.

is of Rubber. *Sales of Rubber*—Rubber, on arrival in London, is cleared, and samples are taken for the sale room.

At the auctions the rubber is sold, and the terms of public sale are that settlement of the nett price should be made fourteen days after the auction date. The selling broker, however, is at liberty to pay advances, at his discretion, under discount of 5 per cent. Such advances, if required, should be credited to an Account "Advances against Shipments," and the relative entry would be —

Cash (or Bank)	Dr	£
To Advances against Shipments		£
For Advance received against Con-		
signment No		

Meantime, the selling broker will render his "Account Sales," showing the following particulars —

Invoice No 7	Private	Sale
	Public	Contract
	Forward	

CROP 191-1

ACCOUNT SALES of 31 packages rubber 21 S S
at Penang Sold for and on account and risk of A B C Rubber
Company Limited

by

D & Co

London

Mark	No.	Weight	Tare	lbs	at	£	s	d	£	s	d
A B C											
Smoked Sheet 31	136/168	45 1 8	6 1 12	4 140	2 5 1	504	11	3			
Brokerage							2	10	5		
<i>Charges</i>											
To Freight at per ton of 50 ft											
Dock Dues, Landing Rent &c											
Fire Insurance £525 at 1 %							0	5	3		
Marine Insurance and Duty £ at											
and Stamp											
Petty Expenses Entries and Stamps							0	6	6		
Commission 1%, on £504 11 3							5	11	0		
										£496	8 2

London

191

E & O F
D & Co

Prompt,

191

This would be journalised as follows in Head Office Books —

Expenses of Sale (detailed if desired)	<i>Dr</i> £	
D & Co		
To Rubber Sales		£
For proceeds of Consignment No		
per Account Sales rendered by D & Co		

If an advance had been drawn to account of the proceeds, this would appear with relative discount in the Account Sales, and the necessary Journal entry would then be —

Expenses of Sale (detailed if desired)	<i>Dr</i> £	
Advances against Shipments		
D & Co		
To Rubber Sales		£
For proceeds of Consignment No		
per Account Sales rendered by D & Co		

At the close of the financial year any advances received against unsettled consignments form a proper deduction from the value of stock-in-hand and in transit, and should be so shown in the printed Accounts

It is, however, possible that arrangements may have been made for the Estate agents in the East to draw there against shipments, as and when made, and to finance the Estate from the proceeds of these drafts. The entries which would appear in the Local Agent's Returns would then be as follows —

Cash (or Bank)	<i>Dr</i> \$	
To Head Office		\$
For proceeds of draft on D & Co		
against Shipment No	£	
at Exchange		

This credit to Head Office Account would at once be noted on comparing the balance shown in the Local Trial Balance with that on the " Eastern Account " in Head Office Ledger, and the Agent's Cash Account in the Monthly Return would, of course, show the dollar equivalent of the necessary entry Head Office, therefore, journalise as follows —

Eastern Account	Dr £	
To Advances against Shipments		£
For amount drawn on D & Co by Agents		
against Shipment No	£	

On receipt of Account Sales, the entries to be made, as first noted, remain unchanged

Where crops are " sold forward " at fixed prices the system remains unchanged, whether advances are received on these contracts or not, but fees which may be incurred in respect of the supplies not being up to " standard " might be shown separately in the Head Office Accounts, as being unusual items of cost

In the case of Companies registered in the East selling their crop in London, the Account Sales require to be journalised. It must be remembered, however, that the Account Sales of crop produced must necessarily be late in reaching the East, and that, unless an estimated valuation is taken for rubber in stock and in transit at the close of the financial year, the closing of the Accounts is likely to be greatly retarded in waiting for final Account Sales

INDEX

Advances Cash	4	Expenditure	
objections to	25	Development	67
Rice	24	General Capital	67 68
Agency Local	3 38	Head Office	63
Agents Visiting	76	Initial Tapping stage	67
Areas Actual	76 77	Monthly check on	38
Effective	76 77 80	necessity for correct	
Assistants Training of	5	records	39 <i>et seq</i>
		Revenue	67 68
		form of	69 70
Bank Account Estate	41		
Cash—		Field Equipment	116
Balances	31	Forms	
Book Managers	14 19 28	Account Sales	96
form of	29	Contractors Ledger	35 36 37
Combined and rice advances	4	Cost Chart	103
Returns	36	Estate Managers Cash Book	29
Charges—		Fortnightly or Monthly	
General	67 68 71 73	Report	45 48-59 69 70
division of on basis		Pay Rolls Daily Report and	
of acreage	108	check Rolls	8
coolies wages	109	Monthly	12 13 18 20 21
proportion of		Principles on which to be	
monthly ex-		framed	3
penditure	111	Production Chart	104
trees	111	rice advances records	18
Charts Forms and use of	102 107	Book and Pay Roll	20 21
Clerical work on Estate	5	Rubber Daily Return Book	84
Collection Cost of	86	Summary	98 99
Contractors Ledger	35 <i>et seq</i>	Shipping Advice Note	88 89 91
form of	35	93 94	
Coolies Contract	26	Standard use on Estate	1
Indentured Rations	11		
Depreciation	83	Head Office	
Development Account	41	Accounts	121
		Books	60
		Expenses	63
		Supplies from to Estate	62
Estate—			
Bookkeeping	27 <i>et seq</i> 41	Immigration Expenses	117
Clerical work	4	Insurance Fire	114
division of	5	Premiums	120
Plan	79	Interest on borrowed money	114
Records	83 <i>et seq</i>		
Shop	11	Live Stock	120

		PAGE
Manager, Estate—		
Books under supervision	6	
Personal payments	41	
Responsibility for cash	4	
Statistics to be kept by	79	
Manager, Expenditure	5	
Medical Expenses Allocation of	113	
Output, Storage of	85	
Pay Rolls	6 11	
Cash Book entries	10	
Form	12 13 18 20 21	
Rice Advances	17	
Production—		
Chart	104	
Cost of	71 72 73 <i>et seq</i> 81 82 100	
Chart	103	
formula for calculating	72	
on basis of acreage	74	
on basis of dates of		
planting	75	
on basis of trees	75	
Quit Rent	119	
Rations, Indentured Coolies	11	
Report Daily	6 <i>et seq</i>	
Form	8	
Returns Cash	36	
Forms	45-59 69 70	
Head Office	37 43 62	
Monthly preparation of	3	
	46 47	
Rice Advances		
Records	16 18	
Book	10	
Form	20 21	
Sales	122-125	
Selling Charges	82	
Shipments	88 <i>et seq</i>	
Forms	88 89 91 93 94	
<i>et seq</i>		
Storage of output	85	
Store Estate	24	
Supplies from Head Office	62	
Purchase of	43	
Tapping Stage Initial	67	
Tools and Stores	115	
Transport of Miscellaneous Goods	115	
Trees—		
Census of	75 76	
Dates of Planting	75	
Percentage of failures	78	
Tapping	77	
Vouchers, Estate	30	
Wages—		
Abstract	22 23	
Average daily	86 87	
Payment of	9	
Responsibility for payment of	10	
Unclaimed	15 16	
Weights Wet	85	

REFERENCE

